

GIB SON ISM

Ecologies of Architecture

Andrej Radman DSD © TU Delft MMXII

GIBSONISM:
Ecologies of Architecture

Proefschrift

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PROPOSITIONS

- 1 **Allographic Curse** Architects are prone to 'misplacing concreteness' as a result of adopting a representational approach. The tendency is sustained rather than challenged by the ubiquity of digital technology.
- 2 **Ontotopology** Experience is not an event 'in' the mind, separate from the environment. Rather the mind emerges from the interaction with the environment. Consequently, by modulating perception one can already modulate subsequent action. This antecedent level of potentialisation is proto-epistemological and already ontological in that it concerns change in the body's degree of enablement in and towards its environment.
- 3 **Spectrum** The law of the excluded middle needs to be challenged because not all potentiality is already an accrued value. A field of an event is much richer than any rationality which is but a subtraction from it. Pure difference, and by extension the entire virtual continuum, is an attempt to think the non-conceptual real difference that underlines our conceptual understanding of the world.
- 4 **Ethico-Aesthetics** The eco-logical approach as the relational paradigm calls for a radical revision of ego-logical anthropocentrism of the enlightenment. The focus is on perception which occurs not on the level at which actions are decided but on the level at which the very capacity for action is forming. A life form never pre-exists an event. The principle of process (dynamism and kinesis) dethrones the principle of substance (classical ontology).
- 5 **Mesoscale** It is at the mesoscale where life forms and their environments interlock that architecture can make an ethological difference. The choice is dictated by the power of perceiving/acting. Perception is not inner observation confirmed by inference (there is only one world and not two). Rather it is outer exploration accompanied by proprioception. Hence, the perception of space is incomprehensible unless we address it as the problem of space-time.

- 6 **Anoetic View** The dominant theories of perception are too logocentric (apperception \neq perception) and not abstract enough. Although logically one advances from space to affordance, developmentally progress runs in the opposite direction. Degree zero of spatial experience occurs at the level of the unconscious and is proto-subjective and sub-representational.
- 7 **Asignifying Sign** Semiotics is only one of the many regimes of signs and certainly not the most important one for architecture. Natural stimuli cannot be understood by analogy and with reference to socially coded stimuli for that would be like putting the cart before the horse. Singularities come before identities. Participation precedes cognition.
- 8 **No Meta-Form** There is no simple correlation between urban and social form. Architecture does not represent culture but it is a mechanism of culture. The limit of something is the limit of its action and not the outline of its figure. The question is not where does a form stop but rather where does an action stop.
- 9 **The Third 'T'** Typological (essentialist) and topographical (metric/extensive) approaches to design need to be complemented by topological (intensive) thinking in order to supersede linear problem-solving. The approach that draws on the concept of 'phase space' from science (thermodynamics) may yield a genuine novelty beyond the ancient un-forgetting (anamnesis) and the modern un-recalling (defamiliarisation).
- 10 ***Qu'est-ce que l'architecture?*** Although architecture transverses the three planes of philosophy, science and art, its sole purpose is to create *affordances* and make experience 'stand on its own' apart from architecture and distinct from the architect. The principles of sensation constitute the principles of composition of a piece of architecture while its structure reveals the genetic conditions of real experience.

These propositions are regarded opposable and defensible and have been approved as such by the supervisor Prof. dr. A.D. Graafland.

STELLINGEN

- 1 **Allografische vloek** Architecten zijn geneigd om 'concreetheid te misplaatsen' als gevolg van een representatieve aanpak. Deze tendens wordt eerder volhard dan tegengegaan door de alomtegenwoordigheid van digitale technologie.
- 2 **Ontotopologie** Ervaring is niet een gebeurtenis 'in' ons denken, los van de omgeving. Integendeel, ons denken ontstaat vanuit de interactie met de omgeving. Door de waarneming te reguleren kan men de daaruit volgende handeling reguleren. Dit voorafgaande niveau van potentialisering is proto-epistemologisch en ontologisch in de zin waar het verandering betreft in de mate van de mogelijkheden van het lichaam in, en in relatie tot zijn omgeving.
- 3 **Spectrum** De wet van het uitgesloten midden moet betwijfeld worden omdat niet al het potentieel vermogen een reeds opgebouwde waarde is. Het veld van een gebeurtenis is veel rijker dan welke vorm van rationaliteit dan ook die er slechts een aftreksel van is. De zuivere differentie, en in het verlengde daarvan het gehele virtuele continuüm, is een poging om het niet-conceptuele werkelijke verschil te denken dat ons conceptueel begrip van de wereld onderstreept.
- 4 **Ethico-esthetiek** De eco-logische benadering van het relationele paradigma vraagt om een radicale herziening van het ego-logisch antropocentrisme van de Verlichting. De focus ligt op de waarneming die zich niet voordoet op het niveau waar het handelen wordt bepaald maar op het niveau waar het vermogen tot handelen wordt gevormd. Een levensvorm gaat nooit vooraf aan een gebeurtenis. Het principe van het proces (dynamisme en kinese) stoot het principe van substantie (klassieke ontologie) van de troon.
- 5 **Mesoschaal** Op de mesoschaal waar levensvormen en hun omgeving samen komen kan architectuur een ethologisch verschil maken. De keuze is bepaald door de kracht van het waarnemen/handelen. Waarneming is niet een innerlijke observatie die bevestigd wordt door een gevolgtrekking (er slechts één wereld, niet twee). Het is eerder een externe verkenning vergezeld van proprioceptie van binnenuit. Daarom is de waarneming van ruimte niet te begrijpen zonder het te benaderen als een vraagstuk van ruimte en tijd.

- 6 **Anoetische blik** De dominante waarnemingstheorieën zijn te logocentrisch (apperceptie \neq perceptie) en niet abstract genoeg. Hoewel men zich logisch ontwikkelt van ruimte naar *affordance* (gebruikseigenschap), beweegt de ontwikkeling zich in de tegengestelde richting. De nulgraad van ruimtelijke ervaring doet zich voor op het niveau van het onbewuste en is proto-subjectief en sub-representationeel.
- 7 **Het tekenloze teken** Semiotiek is slechts een van de vele tekensystemen en zeker niet de belangrijkste voor de architectuur. Natuurlijke stimuli kunnen niet begrepen worden door analogie met en verwijzing naar sociaal gecodeerde stimuli omdat dat het paard achter de wagen spannen zou betekenen. Singulariteiten gaan voor identiteiten. Participatie gaat vooraf aan cognitie.
- 8 **Geen meta vorm** Er bestaat geen eenvoudige samenhang tussen stedelijke en sociale vorm. Architectuur representeert geen cultuur maar is een mechanisme van cultuur zelf. De grens van iets is de begrenzing van het handelen en niet de grenslijn van een figuur. De vraag is niet zozeer waar een vorm ophoudt maar eerder waar een actie stopt.
- 9 **De derde 'T'** Typologische (essentialistische) en topografische (metrisch/extensieve) ontwerpbenaderingen moeten aangevuld worden met topologisch (intensief) denken om het lineaire oplossen van problemen te overstijgen. De benadering van het veld van gerelateerde mogelijkheden in de filosofie (*'phase space' in science*) kan een werkelijke vernieuwing mogelijk maken voorbij het antieke ont-vergeten (anamneses) en het moderne ont-herinneren (onvertrouwd maken).
- 10 ***Qu'est-ce que l'architecture?*** Hoewel architectuur de drie velden van filosofie, wetenschap en kunst doorsnijdt is haar enige doel het creëren van gebruikseigenschappen (*affordance*) en de ervaring 'op zichzelf' te laten staan, los van de architectuur en de architect. De ervaringsprincipes vormen de principes van de compositie van een architectonisch werk terwijl zijn structuur de genetische voorwaarden van werkelijke ervaring onthult.

Deze stellingen worden oponeerbaar en verdedigbaar geacht en zijn als zodanig goedgekeurd door de promotor Prof. dr. A.D. Graafland.

SUMMARY

There is widespread commitment to indirect realism and reductionism among architects. As Robin Evans diagnosed, "we are landed not only with a picture theory of vision, but with a pervasive picture method of construction for manufactured objects as well." We see with our eyes, don't we? The answer is no. The founder of the ecological approach to perception insisted that we see with the eyes in the head on a mobile body supported by the ground, the brain being only the central organ of a complete visual *system*. The dissertation seeks to invigorate James Jerome Gibson's radical empiricism by exploring his unwitting affiliation with Gilles Deleuze's anti-representationalism.

Gibsonism is our shorthand for what contemporary neuro-cognitive sciences classify under the dynamical animal-environment system approach. Perception cannot be considered independently of the environment, because it is defined as an evolved adaptive relation between the organism and the environment. Unfortunately, an overwhelming amount of research has been carried out in the context of *object* perception, rather than environment perception, where the findings of the former are erroneously used as the basis for understanding the latter. Architecture continues to suffer from this fallacy.

Only recently have biologists considered the effect of the 'niche construction' on the inheritance system whereby an organism does not passively submit to the pressures of a pre-existing environment, but actively constructs its niche. Implications for the discipline of architecture are obvious: perception is pertinent as an area of study because it is the source of information about an environment which is in turn intimately related to life forms. Architecture thus ought to reclaim its vanguard position within the Epigenetic Turn which embraces *tekhne* as constitutive of (post)humanity, and not just the other way around. *Ask not what is inside your head but rather what your head is inside of.*

The chapter entitled **Fallacy of Misplaced Concreteness** reveals the inadequacy of *linear* thinking. Many can never be explained or subsumed by One. Neither can the Whole be reduced to its Parts, nor Collective to Individual, let alone Reality to Representation or Experience to Consciousness, as in phenomenology. This is the watershed of Deleuzian process philosophy whereby the *abstract never explains anything*. Quite the contrary, it itself begs an explanation.

The **N Minus One** chapter presents the heart of the thesis, namely, the concept of *reciprocal determination* between One and Many, or Virtual and Actual. This is arguably the most important legacy of incorporeal materialism. Not only does it break with the dichotomies of Subject vs. Object, Nature vs. Culture, Perceiving vs. Acting, and similar, but it also introduces a set of new conceptual tools (topological, intensive and populational) to address both the continuous engendering and the discrete engendered, as well as their continual exchange.

The chapter **Affect Attunement** makes a case for a pedagogy of the senses. Everything begins from the sensible, but the task of architecture thinking is to go beyond the sensible to the potentials that make sensibility possible. This argument is pertinent given that the task of architecture, as we see it, is to *distribute the sensible*. This means that architects work with the sensation as the material. They design *affordances* and not forms. The basic medium of the discipline is *ipso facto* a 'space of experience', rather than geometry, design, critique, or any formalisable field.

The concluding chapter **Architecture of Immanence** deals with architecture proper, covering the spectrum from the 'reactionary' Neo-Archaism to the 'revolutionary' Ex-Futurism. A possibility of a paradigm shift is predicated on the commitment to *passive* vitalism - as opposed to its 'active' organicist predecessor - and to the Guattari-inspired 'ecosophy' which places the *environment*, the *socius* and the *psyche* on the same ontological footing. Let no one of the three **ecologies** have the upper hand ever again.

SAMENVATTING

Onder architecten heerst een wijd verbreid geloof in indirect realisme en reductionisme. Zoals Robin Evans constateerde, "we zijn niet alleen beland bij een beeldtheorie van de blik, maar ook bij een alom tegenwoordige beeldmethode voor de constructie van objecten." We zien met onze ogen, is het niet? Het antwoord is nee. De grondlegger van de ecologische benadering van de waarneming benadrukte dat we zien met de ogen in het hoofd van een bewegend lichaam dat rust op de grond. De hersenen zijn slechts het centrale orgaan van een compleet visueel *stysteem*. Deze dissertatie tracht het radicale empiricisme van James Jerome Gibson te versterken door zijn onbewuste verbinding met het anti-representationalisme van Gilles Deleuze te verkennen.

Gibsonisme is ons steno voor wat hedendaagse neuro-cognitieve wetenschappen classificeren onder de benadering van het dynamische dier-omgevings systeem. Waarneming kan niet beschouwd worden los van de omgeving, omdat deze bepaald is als een ontwikkelde, aanpasbare relatie tussen het organisme en de omgeving. Helaas is er een overweldigende hoeveelheid onderzoek uitgevoerd naar de waarneming van het *object* in plaats van naar de waarneming van de omgeving. De resultaten van de eerste zijn ironisch genoeg gebruikt als basis voor een begrip van de laatste. Architectuur lijdt nog steeds onder deze dwaling.

Slechts zeer recentelijk hebben biologen het effect bestudeerd van de 'niche constructie' op het erfelijkheidssysteem. Dit liet zien dat een organisme zich niet passief overgeeft aan de invloed van een reeds bestaande omgeving, maar actief zijn eigen niche construeert. De implicaties voor de discipline van de architectuur zijn evident: waarneming is een relevant onderzoeksveld omdat het de bron van informatie is van een omgeving die op zijn beurt weer nauw verbonden is met levensvormen. Daarom moet de architectuur weer haar voorhoede positie terugwinnen binnen de Epigenetische Ommekeer die *tekhne* omarmt als essentieel element van de (post)humaniteit, en niet slechts andersom. *Vraag niet wat er in je hoofd zit maar waarin je hoofd zich bevindt.*

Het hoofdstuk met de titel **Fallacy of the Misplaced Concreteness** toont de ontoereikendheid van het *lineaire* denken. Het Vele kan nooit verklaard of vervangen worden door het Ene. Het Geheel kan nooit gereduceerd worden tot zijn Delen, noch het Collectieve door het Individuele, laat staan Realiteit door Representatie of Ervaring door Bewustzijn, zoals in de fenomenologie. Dit is het keerpunt van de procesfilosofie van Deleuze waarin het *abstracte nooit iets verklaard*. Integendeel, het vraagt zelf om een verklaring.

Hoofdstuk N **Minus One** vormt de kern van de dissertatie. Het bespreekt het concept van *wederkerige determinatie* tussen het Ene en het Vele of het Virtuele en het Werkelijke. Dit is ontegenzeggelijk de belangrijkste les van het onlichamelijke materialisme. Het breekt niet alleen met de dichotomieën Subject vs. Object, Natuur vs. Cultuur, Waarnemen vs. Handelen en dergelijke, maar het introduceert ook een nieuwe set conceptueel gereedschap (topologisch, intensief en populatieel) dat zowel gebruikt kan worden voor de continue voortbrenging en het afzonderlijk voortgebrachte, als voor de continue uitwisseling tussen beide.

In het hoofdstuk **Affect Attunement** wordt een pleidooi gehouden voor een pedagogie van de zintuigen. Alles begint met het waarneembare, maar het is de taak van het architectonische denken om voorbij het waarneembare naar de potenties te zoeken die sensibiliteit mogelijk maken. Dit argument is wezenlijk omdat het de taak van de architectuur is, zoals hier opgevat, de zintuiglijkheid te activeren. Dit betekent dat architecten werken met de waarneming als hun materiaal. Zij ontwerpen gebruikseigenschappen (*affordances*) en niet bepaalde vormen. Daarom is het basismedium van de discipline een 'ruimte van ervaring' in plaats van geometrie, ontwerp, kritiek of welk formaliseerbaar veld dan ook.

Het afsluitende hoofdstuk **Architecture of Immanence** behandelt de architectuur zelf, binnen het spectrum van een 'reactionair' Neo-Archaisme tot een 'revolutionair' Ex-Futurisme. De mogelijkheid van een paradigmaverschuiving wordt beargumenteerd op basis van de overtuiging van *passief* vitalisme – in tegenstelling tot zijn 'actieve' organicistische voorganger – en van een op Guattari geïnspireerde 'ecosofie' die de *omgeving*, de *socius* en de *psyche* op eenzelfde ontologische basis plaatst. Laat geen van de drie **ecologieën** ooit nog de overhand hebben.

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GIBSONISM

Ecologies of Architecture

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Chapter One INTRODUCTION

Why has man changed the shapes and substances of his environment? To change what it affords him [...] this is not a new environment - an artificial environment distinct from the natural environment - but the same old environment modified by man. It is a mistake to separate the natural from the artificial as if there were two environments, [...] It is also a mistake to separate the cultural environment from the natural environment, as if there were a world of mental products distinct from the world of material products. There is only one world, however diverse, and all animals live in it, although we human animals have altered it to suit ourselves. We have done so wastefully, thoughtlessly and, if we do not mend our ways, fatally.¹ (J.J. Gibson, 1979)

[It] is not only about sensing, but about sensation itself, and more than anything about sensibility. Let none of these words take a back seat to concepts ever again². (S. Kwinter, 2002)

¹ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 130.

² See: Sanford Kwinter, "Hydraulic Vision" in *Mood River*, ed. Jeffrey Kipnis and Annetta Massie (Columbus, OH: Wexner Center for the Arts, 2002), p. 32.

1.1 Drawing Is Not Writing and Architecture Does Not Speak

1.1.1 The Part before the Horse³

001 **Part to Whole** This is a book about Part to Whole relationships. In other words, it is a book about architecture or what architecture can *do*, both as a part and as a whole. It is important to emphasise right from the start that the whole is rarely a mere aggregate of its parts. It may be *more* but it might as well be *less*. The deliberate vagueness of the ordinal "more or less" is meant to displace the cardinal "good or bad" and shift the discourse away from the transcendence of the moral axiomatic towards the immanence of the ethical pragmatic.⁴ "There is no single concept of good."⁵ As the French philosopher Jacques Rancière has recently stated, the current Ethical Turn marks a specific junction of an environment, a way of being and a principle of action.⁶ The Whole is neither a totality derived from the Parts, nor an 'original' totality from which the Parts emanate. What really matters for archi-tecture, as a Whole, is not the generic 'archi' but the genetic 'tecture'.⁷ In other words, it starts with the act of assemblage, "when you carefully put two bricks together."⁸ The emphasis is on

³ A title borrowed from John Mullarkey, *Bergson and Philosophy* (Edinburgh: Edinburgh UP, 1999), p. 66.

⁴ From the moral *quid juris* to the ethical *quid facti*. An axiomatic is, in the field of logic and mathematics, a small body of *self-evident* truths from which a number of theorems can be derived.

⁵ Deleuze quoting Nietzsche from *On the Genealogy of Morals*. See: Gilles Deleuze, *Nietzsche and Philosophy* (New York: Columbia University Press, [1962] 2006), p. 119. Cf. Friedrich Nietzsche, *On the Genealogy of Morals* (Random House, [1887] 1967), p. I 11.

⁶ Jacques Rancière, *Dissensus, On Politics and Aesthetics* (London and New York: Continuum), p. 184.

⁷ Architecture, from the Greek *arkhitekton*, from *arkhi* 'first, principal' and *tekton* 'craftsman'. For the etymology of 'tekton' see Kenneth Frampton, "Rappel à l'ordre; The Case for the Tectonics" in *Theorizing a New Agenda for Architecture: an Anthology of Architectural Theory, 1965-1995*, ed. Kate Nesbitt (New York: Princeton Architectural, 1996), p. 521. "Greek in origin, the term tectonic derives from the term *tekton*, signifying carpenter or builder. This in turn stems from the Sanskrit *taksan*, referring to the craft of carpentry and to the use of the axe. Remnants of a similar term can also be found in Vedic, where it refers again to carpentry. In Greek it appears in Homer, where it alludes to the art of construction in general. The poetic connotation of the term first appears in Sappho where the *tekton*, the carpenter, assumes the role of the poet. This meaning undergoes further evolution as the term passes from being something specific and physical, such as carpentry, to a more generic notion of making, in the poetic sense." Our use of the term is closest to the generic notion of making. It denotes a constructivist practice in general.

⁸ A quote by Ludwig Mies van der Rohe (1886-1969) from *The New York Herald Tribune*, June 28, 1959. "Architecture starts when you carefully put two bricks together. There it begins." His more famous "less is more" [*Weniger ist mehr*], from the same source, is in

the relation that is exterior to its bricks, a 'reversal' that not many peers would be likely to welcome. "This exteriority of relations is not a principle," explains Gilles Deleuze, "it is a vital protest against principles."⁹ After all, empiricists have no principles. They always prefer experimenting to interpreting. Exemplary of this engineering attitude is the structural engineer Cecil Balmond: "I also have a belief that first comes pattern, then configuration, and only after that comes material, and after that structure."¹⁰ However, when one speaks of 'reason' in general, one tacitly assumes its discursive pattern. But this need not be the case. Any appreciation of form in a broader sense, according to the American philosopher of mind Susanne Langer, as well as any awareness of patterns, counts as experience of 'reason'.¹¹ In her *Feeling and Form* (1953) - which could just as well be called 'Form is Feeling' - Langer systematically advocates the 'rationality' of feeling against the cliché of the (pre)supposed uncritical subjectivism attached to it.¹² This sentiment is shared by the Chinese-American geographer Yi-Fu Tuan:

[A]esthetic experiences and impulses are not confined to any specialized temperament, occupation or culture; they are a human universal. The aesthetic impulse informs and directs - to varying degree - almost every feeling, thought, and action. We see it in gestures of greeting, body posture, communal activities and festivities, pride of workmanship in a child making a whistle or in an adult designing a city.¹³

A far more difficult task is to give an account of architecture not as a whole, but as a part of an ecological assemblage (pleonasm), a perspective that does not seem to cross the minds of those who triumphantly assert how all elements of architecture have become parametrically malleable. Malleable they may as well

fact a nineteenth century proverbial phrase. It subsequently underwent a number of variations from the postmodern reactionary "less is a bore" (Venturi) to the most recent excessive and frivolous "yes is more" (BIG).

⁹ See: Gilles Deleuze, "On the Superiority of Anglo-American Literature" in *Dialogues* (New York: Columbia UP, [1977] 1987), p. 55.

¹⁰ Conversation: Cecil Balmond and Toyo Ito, "Concerning Fluid Spaces" in *A+U: Toyo Ito / under construction* (No.5, Vol. 404, May 2004), pp. 44-53. See also: Cecil Balmond, *Informal* (Munich: Prestel Verlag, 2002).

¹¹ This resonates strongly with Hurley's account: "Instead rationality might emerge from a complex system of decentralised, higher order relations of inhibition, facilitation, and coordination among different horizontal layers, each of which is dynamic and environmentally situated." See: Susan Hurley, "Perception and Action: Alternative Views" in *Synthese* (No. 129, 2001), pp. 3-40.

¹² Susanne K. Langer, *Feeling and Form: A Theory of Art* (New York: Scribner, 1953), p.29.

¹³ Yi-Fu Tuan, "Surface Phenomena and Aesthetic Experience" in *Annals of the Association of American Geographers* (Vol. 79, No. 2, June 1989), p. 239.

be, but that addresses only one half of the problem, at best.¹⁴ If we take the part to whole relationship (of architecture as a part and urbanism as a whole, without the primacy of either) to comprise a double articulation, and if we add to it the material phylum of the human body with its immanent process of experience formation, we get a triple capture.¹⁵ Formalise that! For a careful coupling of the environment with sentient beings we turn to the Dutch philosopher Baruch Spinoza.¹⁶ His advice is to start with the following question: Does this *encounter* augment my powers, or not?¹⁷ Please note that the query equally applies to our walking through the door, turning a street corner, meeting someone or reading this very paragraph, in other words, to any encounter whatsoever. The increase in the power of action brings us joy, claims Spinoza, whereas any diminution or destruction of the powers of action results in sadness.¹⁸ The relation, therefore, may be either augmentative or inhibiting.¹⁹ This seemingly trivial observation will prove indispensable in avoiding some of the past misconceptions of logocentrism which, unfortunately, has not loosened its grip over architectural theory or practice.²⁰ The Spinozian 'mapping of agency' (joy, sorrow / love, hate)

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- ¹⁴ Architectural theorists have seldom broached the issue of how people identify with their environment. See: Neil Leach, "Belonging" in *AA Files* (No. 49, 2003), pp. 76-82.
- ¹⁵ Brian Massumi, "Brian Massumi with Jason Nguyen and Mark Davis" in *Manifold: Forms of Time* (No. 2, Spring 2008), p. 25. "The built form is to body as the built environment is to the building."
- ¹⁶ Please note that the term 'assemblage' in its French version - *agencement* - implies agency.
- ¹⁷ This equally applies to a single-celled organism which can sense food gradients, which means that it possesses sensibility as openness to the environment. The fundamental biological capacity of sense-making proves that the duality of body/mind has no purchase in these matters.
- ¹⁸ The power to affect and be affected governs a felt transition of a body from one state of capacitation to a diminished or augmented state of capacitation. See: Gilles Deleuze, *Cours Vincennes: "Spinoza"* (January 20, 1981), <http://www.webdeleuze.com/php/texte.php?cle=191&groupe=Spinoza&langue=2> (accessed May 25, 2011).
- ¹⁹ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 351. See also: Robin Evans, "Interference" in *Translation from Drawing to Buildings* (London: AA Documents 2, 2003), pp. 12, 13. "[T]he direct effect of 'things' upon human actions, whether this effect is beneficial or detrimental, freeing or constraining. [...] It is a way of changing the world [by design] and not a way of describing a given state of the world."
- ²⁰ As well as criticising René Descartes for the separation of body and mind, neurologist Antonio Damasio argued that rationality stems from emotion and not vice versa. See: Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Putnam Publishing, 1994). See also: Antonio Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (New York: Harcourt Brace, 1999). On the connection with Spinoza see: Antonio Damasio, *Joy, Sorrow, and the Feeling Brain* (Orlando, FL: Harcourt, 2003).

is not to be confused with the 'agency of (cognitive) mapping' because, as we will argue, singularities always precede identities.²¹ To put it more bluntly, an *event* is not what happens but what is going on in what happens. Insofar as lives are lived aesthetically before anything else - because to be alive is to be sentient - the emphasis is to be put on an *encounter*. Experience is conceived as an emergence which returns the body to a process field of exteriority, as opposed to the phenomenological tradition which regards experience as a form of interiority (contra Kantian critique).²² The field, however, is not a distribution of points, the philosopher Claire Colebrook explains, but the striving of powers to become, whereby each power becomes a quality of sorts. Qualities in turn depend upon, yet do not exhaust, the potentials actualised in each encounter.²³ Consequently, the capacity to experience is not linked to any intellectual qualification (contra Marxist critique).²⁴ This is because intelligence always comes after.²⁵ We, of course, do not have a transparent relation to ourselves. However, if we pay attention to paying attention we will inevitably come to the same conclusion as the cultural critic and philosopher Walter Benjamin has done in the *Work of Art in the Age of Mechanical Reproduction* (1936): "Architecture has always represented the prototype of a work [...] the reception of which is consummated by a collectivity in a state of distraction.[...] They [buildings] are mastered gradually by habit, under the guidance of tactile appropriation."²⁶ Today, when

²¹ A reference to an influential paper on the necessary yet insufficient practice of cognitive mapping. See: James Corner, "The Agency of Mapping: Speculation, Critique and Invention" in *Mappings*, ed. Denis Cosgrove (London: Reaktion Books, 1999), pp. 231-252.

²² We do not subscribe to Harvey's pejorative use of the term 'aesthetic' in association with PoMo superficiality (*vis-à-vis* the allegedly socially responsible Modernism). See: David Harvey: *The Condition of Postmodernity* (London: Basil Blackwell, 1989).

²³ See: Claire Colebrook, "The Sense of Space: On the Specificity of Affect in Deleuze and Guattari" in *Postmodern Culture* (No. 15.1, 2004).

²⁴ "Rather, the sensual intensities of everyday life are crucial to the agentic potential of human beings regardless of class or stature." See: Davide Panagia, "*Partage du sensible*: the distribution of the sensible" in *Jacques Rancière: Key Concepts*, ed. Jean-Philippe Deranty (Durham: Acumen, 2010), p. 102.

²⁵ In *Proust and Signs*, Deleuze contrasts Proustian with Socratic intelligence: "In Socrates, intelligence still comes before encounters; it provokes them, it instigates and organizes them. Proust's humor is of another nature: Jewish humor as opposed to Greek Irony. One must be endowed for the signs, ready to encounter them, one must open oneself to their violence. The intelligence always comes after, it is good when it comes after; it is good only when it comes after." Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1964] 2007), p. 64.

²⁶ Walter Benjamin, "Work of Art in the Age of Mechanical Reproduction" in *Illuminations*, ed. Hannah Arendt ([1936] 1968). "Buildings are appropriated in a twofold manner: by use and by perception – or rather, by touch and sight. Such appropriation cannot be understood in terms of the attentive concentration of a tourist before a famous building. [...] For the tasks

the artificial environment has become officially ubiquitous, a mere distraction has turned into an absolute oblivion despite (or precisely because of) the ever more exuberant architectural production.²⁷ This does not prove that "less is more" but that more can indeed be less.²⁸ We spend most of our lives in autopilot mode - walking, talking, driving - and only a fraction in teleological mode. But as the leading critic of artificial intelligence research Hubert Dreyfus maintains, the latter is the mode we tend to notice and one which has therefore been studied in detail.²⁹ However disadvantageous all this (corroborative) evidence may seem to the architect, it will prove not to be so once we fully grasp the Affective Turn and its implications for the discipline. Quite the contrary, it might become apparent that it is through habit rather than attention, and collectivity rather than individualism, that we find the (royal) road to the understanding of 'space', or better still, that we undergo (minor) apprenticeship in *spatialisation*.³⁰

002 **Many to One** To change the register and consider Part to Whole in the more philosophical terms of Many to One, or concrete sensibility vs. abstract intelligibility, is to make the approach as aesthetic as it is ethical.³¹ Ethics is

which face the human apparatus of perception at the turning points of history cannot be solved by optical means, that is, by contemplation, alone."

²⁷ According to the United Nations report issued on March 25, 2010, 50.5 per cent or 3.5 billion people on Earth live in cities, the urban population is growing, often at the expense of rural areas, and overall the population has become more urban and less rural. See also: Simon Parker, *Urban Theory and the Urban Experience: Encountering the city* (London and New York: Routledge, 2004), p. 1. "At the beginning of the twentieth century some 10 per cent of the world's population dwelt in towns or cities; in 1975 this figure had risen to 37.8 per cent; in 1995 the figure had reached 45.3 per cent [...]."

²⁸ Rem Koolhaas, "Junkspace" in *Content*, ed. AMO-OMA/Rem Koolhaas et al. (Köln: Taschen, 2004), pp. 162-171. "The built product of modernization is not modern architecture but Junkspace. Junkspace is what remains after modernization has run its course or, more precisely, what coagulates while modernization is in progress, its fallout."

²⁹ Hubert L. Dreyfus, "Heidegger's Critique of Husserl's (and Searle's) Account of Intentionality" in *Social Research* (No. 1, Vol. 60, Spring 1993).

³⁰ For a similar inquiry (albeit with a different conclusion) of how we are to conceive the elusive relation between 'spatial form' in architecture and the 'space of life-world and perception' see: Martin Donougho, "Spaced Out or Folded In? Trends in Architectural Choreography" in *Philosophy and Architecture*, ed. Michael H. Mitias (Amsterdam: Rodopi, 1994), p. 167. As for the issue of 'minor apprenticeship', we are appropriating Deleuze and Guattari's concept of *minor literature*: "[...] it is the expression that precedes or advances - it is expression that precedes contents, whether to prefigure the rigid forms into which contents will flow or to make them take flight along lines of escape or transformation." See: Gilles Deleuze and Félix Guattari, *Kafka: Toward a Minor Literature* (Minneapolis: Minnesota UP, [1975] 2008), p. 85.

³¹ See: Rosalyn Diprose, "A 'Genethics' that Makes Sense: Take Two" in *Ethics of the Body: Postconventional Challenges*, ed. Margit Shildrick and Roxanne Mykitiuk (Cambridge, MA:

derived from the Greek word *ethos* meaning dwelling or habitat. But rather than the ideological notion of 'habitus', the emphasis here is on the *habit*. Habit is seen not as a mere passive response to a stimulus, but as a creative power.³² As the feminist philosopher Rosi Braidotti has recently argued, the enabling power as *potentia* needs to be distinguished from the the 'hindering' power as *potestas*.³³ We see this as a plea to set 'environmentality' apart from 'governmentality'. Aesthetics has to be rescued from the province of a reactive undisciplined sensuality. In order to do so, as the political theorist Jane Bennett argues, we ought to stop overlooking and 'underfeeling' a third term between a striking reality and a stricken body. This third term she calls *sensibility*:

[T]he quality or character of sensuous experience, a character that is culturally encoded and temperamentally delimited, but also educable (to some degree) through careful techniques of the self. A sensibility is a *disciplined* form of sensuousness. *This* aesthetics - aesthetics as sensibility-formation - has implications for ethics that are irreducible to fascism, hedonism, or indiscriminateness. For as a form of askesis, a sensibility establishes a range of possibility in perception, enactment, and responsiveness to others.³⁴

The founder of 'Ecosophy,' French psychotherapist and life-long accomplice of Deleuze's, Félix Guattari, coined the term *Ethico-Aesthetic* for didactic purposes in order to emphasise the inseparability of ethics and aesthetics.³⁵ The neologism was his subtle way of proposing that practice and experimentation actively shape subjectivity. Until recently the Sentient has been considered as a mere supplement to the Sapient. The ranking order in major philosophical systems clearly reveals the historical bias towards the latter. [Table i]

MIT, 2005), p. 238. "Habitat encompasses habits [...] as the product of the repetition of bodily activities [...]"

³² See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), pp. 70-79.

³³ See: Rosi Braidotti, *Transpositions: On Nomadic Ethics* (Cambridge: Polity Press, 2006), p. 30. "I do not think it acceptable [...] to raise any issues related to ethics or to morality independently of considerations of power and power relations. [...] At times contemporary moral philosophy comes across as comfortably installed in a consensus about the *context free* nature of its deliberations. As a materialist nomadic feminist philosopher, I want to stress the urgency of rewriting issues of power [...]" [emphasis added]

³⁴ Jane Bennett, "How is it, then, that we still remain barbarians?: Foucault, Schiller, and the Aestheticization of Ethics" in *Political Theory* (No. 4, Vol. 24, November 1996), pp. 653-672. "Foucault discusses practice of the self as *askesis*, in its Greek sense of self-discipline rather than a Christian sense of self-denial."

³⁵ 'Ecosophy' is defined as "science of ecosystems". See: Félix Guattari, *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p.91.

	cognitive	ethico/political	libidinal/aesthetic
	>	>	>
Plato	TRUE	GOOD	BEAUTIFUL
Aristotle	KNOWING	DOING	MAKING
Kant	EPISTEME	ETHICS	AESTHETICS
Deleuze	<	<	SUBLIME

i

Three Realms / (Transcendental) Empiricist Reversal of Reversal: *One has to take seriously one of the Kantian revolutions that Kant left aside, notably that the infinite is truly the act of finitude insofar as it overcomes itself. Kant had left that aside because he was content with a reduction of the infinite to the indefinite. This is to substitute the viewpoint of genesis for the viewpoint of the condition.*³⁶ (G. Deleuze, 1980)

But as the literary theorist Terry Eagleton remarked, it is in the manner of such lowly supplements to end up supplanting what they are meant to subserve.³⁷ Marxist overtones aside, Kant's 'unhinged' *Third Critique* (1790) - which could be regarded as the very hinge between Classicism and Romanticism - is a case in point.³⁸ This unique account of *real* experience beyond its *possible* conditions, as set out in the *Critique of Judgement*, could not pass unnoticed by the empiricist (i.e. pluralist) Gilles Deleuze.³⁹ Kant's aesthetic judgement is not derived from

³⁶ See: Gilles Deleuze, *Cours Vincennes*; "Deleuze/Leibniz" (May 20, 1980), <http://www.webdeleuze.com/php/texte.php?cle=130&groupe=Leibniz&langue=2> (accessed May 25, 2011).

³⁷ Terry Eagleton, *The Ideology of the Aesthetic* (Oxford, UK: Blackwell, 1990), p. 45.

³⁸ Stephen Zepke, *Art as Abstract Machine: Ontology and Aesthetics in Deleuze and Guattari* (New York: Routledge, 2005), p. 173.

³⁹ Kant's *Critique of Judgement*, in its aesthetic part, is not there simply to complete the other two Critiques; it in fact provides them with a ground. See: Gilles Deleuze, *Kant's Critical Philosophy: the Doctrine of the Faculties* (Minneapolis: University of Minnesota, 1984), pp. 49-50. See also: Miguel de Beistegui, *Immanence: Deleuze and Philosophy* (Edinburgh: Edinburgh UP, 2010), p. 120. Some commentators assert that *Difference and Repetition* (1968) and *Anti-Oedipus* (1972) could be read as Deleuze's (Guattari) rewriting of Kant's First and Second Critiques, respectively. See: Daniel W. Smith, "Deleuze, Kant, and the Theory of Immanent Ideas" in *Deleuze and Philosophy*, ed. Constantin V. Boundas (Edinburgh: Edinburgh University Press, 2006), p. 55. "*Anti-Oedipus* remains an incomprehensible book as long as one does not see its overall structure as an attempt, on Deleuze's part, to rewrite the *Critique of Practical Reason* from the viewpoint of a strictly immanent theory of Ideas. What would a purely immanent theory of desire look like in the domain of practical reason? What if one did not appeal to the moral law – and the transcendent Ideas that serve as its necessary postulates – and instead synthesised desire with a conception of Ideas as purely immanent? This is precisely what Deleuze does in the opening two chapters of *Anti-Oedipus*: the three syntheses by which he and Guattari define 'desiring machines' are in fact the same three Ideas that Kant defines as

concepts *a priori*. In contrast to the faculties of (speculative) understanding and reason (morality), it has neither the legislative power nor a domain of its own. The sociologist Scott Lash explains the crucial difference:

Kant importantly distinguished between three types of judgement. Cognitive and moral judgments presumed the subsumption of a particular case by a universal category. But in aesthetic judgments there was the subsumption of a particular by another particular, but with reference to a universal. What Kant has in mind for aesthetic judgment was something along the lines of the English Common Law, in which, in contradiction to continental systems, it was not the general norm under which a particular case came, but instead under a similar previous particular case. There is subsumption of a particular by a particular, though with reference to a universal because the previous particular case functions as a general norm would.⁴⁰

What Kant effectively did in this mature work in general, and in the exploration of the 'uncontrollable' Sublime in particular, was to give us a proto-theory of singularity, without having to explain difference through addition, subtraction or negation of identity.⁴¹ The sublime marks a discord or dissensus between faculties. The encounter of a 'sign' - as opposed to the recognition of an object which occurs under a conceptual framework - provides Deleuze with an impetus to build his ambitious metaphysics from the opposite end, that is, from what may be called the 'Critique of Pure Feeling'.⁴² In this, Deleuze transformed Kant's transcendental idealism (concerned with the conditions of possibility of experience) into his version of transcendental empiricism (conditions of actualisation). For Deleuze, every thing is created and is literally its own history,

the postulates of practical reason (soul, world and God), but now stripped entirely of their transcendent status, to the point where neither God, world, nor self subsist."

⁴⁰ Scott Lash and John Urry, *Economies of Signs and Space* (London: Sage Publications 1993), pp. 47-48. More recently, Alexandre Lefebvre develops the latter part of the thesis: Alexandre Lefebvre, *The Image of Law: Deleuze, Bergson, Spinoza* (Stanford, CA: Stanford UP, 2009).

⁴¹ For an account of the sublime in architectural theory see: Arie Graafland, *The Socius of Architecture: Amsterdam, Tokyo, New York* (Rotterdam: 010 Publishers, 2000), pp.79-100.

⁴² See: Daniel W. Smith, "Deleuze's Theory of Sensation: Overcoming the Kantian Duality" in *Deleuze: a Critical Reader*, ed. Paul Patton (Oxford: Blackwell Publ., 1996), pp. 38-39. "Deleuze's theory of sensibility, in sum, is opposed to Kant's on these three interrelated points: [1] the element of sensation must be found in the sign, and not the qualities of a recognizable object; [2] the sign is the limit-object of the faculty of sensibility, beyond the postulates of recognition and common sense; [3] the Idea of sensibility is constituted by differential relations and differences in intensity, which give a genetic account of thought and constitute the conditions of real, and not merely possible, experience, since the conditions are never larger than what they condition." [emphasis added]

a process. This explains his foregrounding of the aesthetic and experimental attitude.⁴³ The accent is no longer on judgement, but creation. According to the Belgian scholar Juliette Simont, one is to stay above the ontological intensive craters that bubble beneath categories and organisms: "it is to take hold of all that occurs in its genetic process, instead of receiving, at the level of sense, 'already made qualities and already constituted extensities' or being satisfied, at the level of bodies, with the laws that Oedipus imposes on the organism."⁴⁴ However, to destroy the received and constituted systems in favour of genesis is not enough in itself. What also needs to be demonstrated is that such a genesis is plural and anarchic, that is, incapable of being grasped as thought's own.⁴⁵ A logic that affirms exteriority as such, according to the French Spinozist François Zourabichvili, necessarily assumes a position where thought is no longer master of what it thinks. However, such an 'irrational position' is quite distinct from illogicality.⁴⁶ The same impetus lies behind the (in)famous concept of Body without Organs (BwO).⁴⁷ For Deleuze and Guattari, the body becomes a (molecular) assemblage rather than a (molar) organism, which does away with consciousness as the seat of coherent subjectivity.⁴⁸ In BwO, humans are conceived as mutating assemblages that can absorb a variety of entities into their environments, both machines and organic matter. The BwO is driven by desire, rather than by conscious thought. In Deleuze and Guattari's definition, desire is a

⁴³ 'Aesthetic' has a number of different though related meanings. According to Clive Cazeaux, it has three meanings: (1) In ancient Greek Philosophy (pre-Socratics, Plato, Aristotle), *aisthesis* refers to lived or felt experience, knowledge obtained through the senses, in contrast to *eidos*, knowledge derived from reason and intellection; (2) Perhaps the most familiar sense of the term is aesthetics as the study of beauty (Baumgarten and Kant) and, in particular, the beautiful in art; (3) Contemporary aesthetics, appears as a reaction to the earlier concept of 'appreciation of beauty', as the dynamic state of conceptual reappraisal that is constitutive of our attempts to deal with any new situation. See: Clive Cazeaux, *The Continental Aesthetics Reader* (London: Routledge, 2000), p. xvi.

⁴⁴ Oedipalisation stands for fitting the difference into a pre-existing categorical scheme or horizon of identity. See: Juliette Simont, "Gilles Deleuze, à la rencontre de l'intensité" in *Les Temps Modernes* (No. 629, November 2004 - February 2005), p. 68.

⁴⁵ See: Daniel W. Smith, "Deleuze, Kant, and the Theory of Immanent Ideas" in *Deleuze and Philosophy*, ed. Constantin V. Boundas (Edinburgh: Edinburgh University Press, 2006), pp. 43-61.

⁴⁶ François Zourabichvili, "Six Notes on the Percept (On the Relation between the Critical and Clinical)" in *Deleuze: A Critical Reader*, ed. Paul Patton (Cambridge, MA: Blackwell, 1996), p. 188.

⁴⁷ Gilles Deleuze introduced the notion of the 'Body without Organs' (BwO) in *The Logic of Sense* (1969); but it was not until his collaborative work with Félix Guattari - particularly *Anti-Oedipus* (1972) and *A Thousand Plateaus* (1980) - that the BwO comes to prominence.

⁴⁸ The virtual field is a pre-individual and totally impersonal zone beyond (or prior to) any idea of consciousness.

process of production "without reference to any exterior agency, whether it be a lack that hollows it out or a pleasure that fills it in."⁴⁹ The primacy of desire - as a positive force and not as a (Lacanian) lack - could be regarded as the source of Nietzsche's doctrine of perspectivism. This explains his famous but often misinterpreted dictum that there are no facts, only interpretations. What is often overlooked, explains the philosopher Daniel W. Smith, is that, for Nietzsche, it is our drives that are perspectival and not our egos.⁵⁰

003 Individual to Collective Finally, in the permutation of Individual vs. Collective, the Part to Whole relationship becomes a political issue.⁵¹ The neoliberal war cry coined by Margaret Thatcher was (and still is): "There is no such thing as society."⁵² However, the art critic Hal Foster replies, "when Wall Street needed bailing out, 'society' suddenly had to be resurrected, because they needed our tax dollars. So this might be a time to push back a little - for young architects, say, to press that social sense of the real, to think about what it might mean in practice."⁵³ First of all, it is important to overcome the common misconception that connectivity directly implies collectivity, as Eugene Thacker cautions: "the

⁴⁹ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 154.

⁵⁰ See: Daniel W. Smith, "Deleuze and the Question of Desire: Toward an Immanent Theory of Ethics" in *Parrhesia* (No. 2, 2007), pp. 66-78. "It is not so much that I have a different perspective on the world than you; it is rather that each of us has multiple perspectives on the world because of the multiplicity of our drives - drives that are often contradictory among themselves. 'Within ourselves', Nietzsche writes, 'we can be egoistic or altruistic, hard-hearted, magnanimous, just, lenient, insincere, can cause pain or give pleasure'. We all contain such 'a vast confusion of contradictory drives' that we are, as Nietzsche liked to say, multiplicities, and not unities. [...] Moreover, these drives are in a constant struggle or combat with each other: my drive to smoke and get my nicotine rush is in combat with (but also coexistent with) my drive to quit. This is where Nietzsche first developed his concept of the will to power - at the level of the drives. 'Every drive is a kind of lust to rule,' he writes, 'each one has its perspective that it would like to compel all the other drives to accept as a norm'." See also: Daniel W. Smith, "On the Nature of Concepts" in *Journal of Philosophy: A Cross Disciplinary Inquiry* (Vol. 5, No. 11, 2010), pp. 57-60.

⁵¹ Political thinker Paolo Virno argues that the notion of 'multitude', as elaborated by Spinoza, is a far better tool to analyze social formations than the Hobbesian macro-reductionist category of 'people'. See: Paolo Virno, *A Grammar of the Multitude: for an Analysis of Contemporary Forms of Life* (Los Angeles, CA: Semiotext(e), 2004). Conversely, Nancy's fundamental argument against the micro-reductionist fallacy is that being is always 'being with'; that 'I' is not prior to 'we'; that existence is essentially co-existence. See: Jean-Luc Nancy, *Being Singular Plural* (Stanford, CA: Stanford UP, 2000).

⁵² Margaret Thatcher in an interview by Douglas Keay for *Woman's Own* (No. 31, October 1987).

⁵³ Hal Foster, "New Monumentality: Architecture and Public Space" in *The Real Perspecta* 42 (Cambridge, MA: MIT Press, 2010), pp. 135-139.

multiple is not a multiplicity, and the singular is not a singularity. The multitude is not just a large number that has been unified, homogenized, rendered a body-above-the-body (a body politic); it is also defined by its composition, which is labile, permeable, and morphological."⁵⁴ What keeps the Socius from being One is its virtue of being defined by a set of diverse interests, affects, and relations. Furthermore, once the individual itself is conceptualised as collective - *dividual* - and not as indivisible (actant in the network), some of the bedrock notions become questionable.⁵⁵ We should thus start considering every entity - whether individual or collective - as an assemblage.⁵⁶ This does not leave out subjects. The very prefix in the term 'sub-ject' clearly reflects a "built-in" bias. It should have been 'super-ject' all along.⁵⁷ The turn towards genesis triggered a major overhaul in the theories of subjectivity (subjectification as an aesthetic condition) and, as a result, the political discourse shifted toward the 'micro' (microphysics of power and political investment of the body).⁵⁸ The micro descends below the individual, as in a 'mass' that is not yet individualised.⁵⁹ But to acknowledge that there are relations all the way down does not suffice as this applies to the mechanistic micro-reductionist outlook as well. On the other hand, can an

⁵⁴ Eugene Thacker, "Networks, Swarms, Multitudes" in *CTheory*, ed. Arthur and Marilouise Kroker (2004), <http://www.ctheory.net/articles.aspx?id=422> (accessed May 25, 2011).

⁵⁵ Gilles Deleuze, "Postscript on the Societies of Control" in *Rethinking Architecture: A Reader in Cultural Theory*, ed. Neil Leach (London: Routledge, 1997), pp. 309-313. "The numerical language of control is made of codes that mark access to information, or reject it. [...] Individuals have become 'dividuals' and masses [have become] samples, data, markets, or 'banks'."

⁵⁶ Please note that the term 'assemblage', appropriated from *A Thousand Plateaus* (1980), is near synonymous with the earlier 'machine' from *Anti-Oedipus* (1972).

⁵⁷ Alfred North Whitehead, *Process and Reality: an Essay in Cosmology*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free, 1978), p. 29. "It is fundamental to the metaphysical doctrine of the philosophy of organism, that the notion of an actual entity as the unchanging subject of change is completely abandoned. An actual entity is at once the subject of experiencing and the superject of its experiences."

⁵⁸ Subjectification (French: *subjectivation*) is a philosophical concept coined by Michel Foucault and elaborated by Gilles Deleuze and Félix Guattari. It refers to the construction of the individual subject. The concept has often been used in critical theory, sometimes with Louis Althusser's concept of *interpellation*. In Gilbert Simondon's theory of individuation, subjectification precedes the subject in the same way as the process of individuation precedes the creation of the individual. While the classical notion of a subject considers it as a term, Foucault considered the process of subjectification to have an ontological pre-eminence on the subject as a term. For a contemporary account of subjectification see: Deborah Hauptmann and Warren Neidich, ed. *Cognitive Architecture - From Bio-Politics To Noo-Politics* (Rotterdam: 010 Publishers, 2010). See also: Thomas Metzinger, *Being No One; The Self-Model Theory of Subjectivity* (Cambridge, MA: MIT Press, 2003).

⁵⁹ John Rajchman, *The Deleuze Connections* (Cambridge, MA: MIT, 2000), p. 12.

approach unmindful of the phenomena of emergence be abandoned without being replaced (yet again) with a naïve organicist vitalism, that is, without succumbing to macro-reductionism of sorts? The phenomena of emergence are central to our thesis as they refer to properties that are not inherent in the individual components of a system (mechanicism), but which come about as a result of an interaction of the components (vitalism).⁶⁰ Deleuze's strategy of avoiding the trap of micro-macro reductionism altogether is to shift from organic and inorganic to *nonorganic life*: "the vital as potent pre-organic germinality, [...] to a matter which raises itself to the point of life, and to a life which spreads itself through all matter."⁶¹ 'Micro' and 'macro' should never be treated as absolute scales. In the words of architectural theorist Sanford Kwinter: "Vitality is materiality, and materiality, like Nietzsche's Will to Power, must always engage other units of itself."⁶² Architects take note, it is high time we shed the (bad) habit of representationism as a 'reversed ontology' (with a constitutive subject) and conceived of relations as being external to their terms.⁶³ This is to say that nothing *fully* determines how any potential will be actualised. Rather, according to Colebrook, "[...] life is a plane of potentialities or tendencies that may be actualised in certain relations but that could also produce other relations, other worlds."⁶⁴ The philosophical maverick Michel Serres eloquently explains the gist of the philosophy of difference:

⁶⁰ See: Manuel DeLanda, *Philosophy and Simulation: The Emergence of Synthetic Reason* (London and New York: Continuum, 2011), pp. 1-6.

⁶¹ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), 51. For an outstanding account of the notion of 'nonorganic life' see: Manuel DeLanda, "Nonorganic Life" in *Zone 6: Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Urzone, 1992), pp. 129-167.

⁶² Sanford Kwinter, "Flying the Bullet, or when did the future begin?" in *Rem Koolhaas: Conversation with Students* (New York: Princeton Architectural Press, 1996), p. 90.

⁶³ Gilles Deleuze and Claire Parnet, *Dialogues II* (New York: Columbia UP, 2007), pp. 41-42. "In effect if relations are external and irreducible to their terms, then the difference cannot be between the sensible and the intelligible, between experience and thought, between sensations and ideas, but only between two sorts of ideas, or two sorts of experiences, that of terms and that of relations."

⁶⁴ See: Claire Colebrook, "The Sense of Space: On the Specificity of Affect in Deleuze and Guattari" in *Postmodern Culture* (No. 15.1, 2004). Colebrook makes *inexhaustibility* concrete by way of a simple example: "[A] line that makes up a grid on a plan or diagram is a line by virtue of this realized set of relations. But such a line might also be drawn on a canvas, overlaid with other lines or set aside blocks of color, no longer being a line but becoming other than itself - a shading or border. This means that there is a potential for sense (within, say, linearity) that cannot be exhausted by any single relation. In contrast with the idea that space or the world is constructed from sense - socially or culturally constituted - spatiality opens sense, for any location bears the potential to open up new planes, new orientations. Rather than seeing space as effected from sense, as realized

The world as it is is not the product of my representation; my knowledge, on the contrary, is a product of the world in the process of becoming. Things themselves choose, exclude, meet, and give rise to one another.⁶⁵

Radical empiricism - the legacy of the American pragmatist William James - constitutes a departure from the parallelism of the transcendental and empirical.⁶⁶ Whereas traditional empiricism understands the empirical as the domain of discrete parts, the contention that is at the heart of James' philosophy is that relations are not a derivation of mental operations working upon the raw data of sense experience. Rather, relations are themselves immediately sensed. Indeed, they are only sensed. The speculative pragmatist Brian Massumi captures this insight in James: "Relationality [...] registers materially in the activity of the body before it registers consciously," and thus determines the power of action: "we do not run because we are afraid, but we are afraid because we run."⁶⁷ Making power the object of the will has been a fatal misunderstanding. It is quite the opposite: What a body will do.

1.1.2 Digital Turn: Blessing and Curse

004 **Digital Turn** The problem with the predominant conceptions of experience, as Massumi puts it, is not that they are too abstract but rather that they are not abstract enough.⁶⁸ We seem to be lacking a genuine theory of the concrete abstractness of experience. As the process philosopher Albert North Whitehead cautions, a fact in nature has nothing to do with the logical derivation of concepts: "What is concrete as causal is abstract in its derivation from the apparent and

from a system of orientation or intending, Deleuze sees spatiality as an opening of sense, as the potential to create new problems."

⁶⁵ Ilya Prigogine and Isabelle Stengers and Serge Pahaut, "Dynamics from Leibniz to Lucretius," Afterword to Michel Serres, *Hermes: Literature Science, Philosophy* (Baltimore: Johns Hopkins University Press, 1982), pp. 137-155.

⁶⁶ There are two types of Kantian reason: the physical or empirical reason of the understanding (*Verstand*); and the metaphysical reason (*Vernunft*) or Reason itself. For Kant, metaphysical reason is the condition of possibility of physical reason. Yet it is physical or empirical reason that takes pride of place. Kant is, thus, an empirical realist and a transcendental idealist.

⁶⁷ See: Brian Massumi, *Parables for the Virtual; Movement, Affect, Sensation* (Durham: Duke University Press, 2002), p. 231. American pragmatist William James insisted that the world did not emerge from the subject. Rather, the subject emerged from the world. He thus put the mind back into nature, as it were. His major work is: William James, *The Principles of Psychology*, Vol. One and Two (New York: Dover Publications, 1950).

⁶⁸ Brian Massumi, *Parables for the Virtual; Movement, Affect, Sensation* (Durham: Duke University Press, 2002), p.178.

what is concrete as apparent is abstract in its derivation from the causal."⁶⁹ It is therefore high time to shake off the pernicious residue of the so-called Linguistic Turn.⁷⁰ In the words of Robin Evans: "Drawing is not writing and architecture does not speak."⁷¹ As the founder of ecological psychology James Jerome Gibson aptly said, *one cannot hope to understand natural stimuli by analogy and with socially coded stimuli*:

The world does not speak to the observer. Animals and humans communicate with cries, gestures, speech, pictures, writing, and television [and internet], but we cannot hope to understand perception in terms of these channels; it is quite the other way around. Words and pictures convey information, carry it, or transmit it, but the information in the sea of energy around each of us, luminous or mechanical or chemical energy, is not conveyed. It is simply there. *The assumption that information can be transmitted and the assumption that it can be stored are appropriate for the theory of communication, not for the theory of perception.*⁷² [emphasis added]

To try to capture the non-discursive through the (in evolution terms) recent graft of linguistic theories, or the more current input/output information processing, is certainly appealing (in terms of formalisation) yet impossible, not least because there is no structural homology between the (continuous) analogue and (discrete) digital.⁷³ Strictly speaking, there are no digital events in nature. Zeno's paradox

⁶⁹ Alfred North Whitehead, *The Principles of Natural Knowledge* (Cambridge UP, 1919), p. 188.

⁷⁰ For a discussion on 'architectural semiotics and syntactics' see: Geoffrey Broadbent: "A Plain Man's Guide to the Theory of Signs in Architecture", in *Architectural Design* 47 (No. 7-8, July/August 1978), pp. 474-482.

⁷¹ See: Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), p. xxxvi. See also: Robin Evans, *Translation from Drawing to Buildings* (London: AA Documents 2, [1986] 2003), p.154. "Before embarking on the investigation of drawing's role in architecture, a few more words might be spent on language; more particularly, on the common antilogy that would have architecture be like language but also independent of it. All things with conceptual dimension are like language, as all grey things are like elephants."

⁷² According to Gibson the information in ambient light is *inexhaustible*, and the same applies to sound, odour, touch and natural chemicals. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 242. For an "apprenticeship to the signs that the world emits" see Deleuze's reading of Marcel Proust's *In Search of Lost Time*. Deleuze insists that the novel is not about memory, as is commonly assumed, but signs. Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1964] 2007).

⁷³ Non-discursive social interaction precedes linguistic interaction by at least 200,000 years and the computer era by 199,950 years.

continues to haunt us.⁷⁴ This is especially pertinent as we seem to be witnessing yet another major 'paradigm shift'.⁷⁵ The current Digital Turn could be seen both as a blessing and a curse. It certainly endows the architect with ever more powerful tools not just for mapping and designing but also for literally (not literarily) expanding our *sensorium*.⁷⁶ As the painter Paul Klee would have it, the task is "not to render the visible, but to render visible."⁷⁷ The living organism perceives according to its range of potential responses and *vice versa*.⁷⁸ An expansion of the range of action or perception capacitates the body. But there are also worrisome indications that the Digital Turn perpetuates the unfortunate (post)structuralist habit of putting the cart of representation before the horse of morphogenesis.⁷⁹ If the seventeenth century was trying to steer clear of error, the eighteenth and nineteenth centuries to denounce illusions and stupidity (*bêtises*) respectively, it is plausible - despite all the evidence to the contrary - that the twenty-first century will have to break with abstraction and recover the richness of the concrete. In the words of the champion of autopoiesis Francesco Varela:

There are strong indications that among loose federation of sciences dealing with knowledge and cognition [...] there is a slowly growing conviction that this [Rationalistic] picture is upside down, that a radical paradigmatic or epistemic shift is rapidly developing. At the very center of this emerging view is the belief that the proper units of knowledge are primarily *concrete*, embodied, incorporated, lived. This unique, concrete knowledge, its historicity and context, is not 'noise' that occludes the brighter pattern to be captured in its true essence,

⁷⁴ Instants in time and instantaneous magnitudes do not actually exist. An object in relative motion cannot have a determined relative position (for if it did, it could not be in motion), and so cannot have its motion fractionally dissected as though it does, as in the paradoxes.

⁷⁵ The scientific notion of 'paradigm shift' comes from: Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Cambridge, MA: MIT Press, 1970). Its counterpart in the realm of art is 'style'.

⁷⁶ $1/(3 \times 10^{35})$ is a (very very small) fraction of the electromagnetic spectrum that we detect and call 'reality'. From: Howard C. Hughes, *Sensory Exotica: A World Beyond Human Experience* (Cambridge, Massachusetts: MIT Press, 2001).

⁷⁷ Paul Klee, *On Modern Art* (London: Faber and Faber, 1924).

⁷⁸ "Man lives and moves in what he sees, but he only sees what he wants to see. Try different types of people in the midst of any landscape. A philosopher will only vaguely see phenomena; a geologist, crystallized, confused, ruined and pulverized epochs; a soldier, opportunities and obstacles; and for a peasant it will only represent acres, and perspiration and profits but *all of them will have this in common, they will see nothing as simply a view.*" [emphasis added] See: Paul Valéry, "On Painting" in *Selected Writings of Paul Valéry* (New York: New Direction, 1964), p. 222.

⁷⁹ By morphogenesis we mean the production of (meta) stable structures out of material flows. Morphogenesis is derived from the Greek terms 'morphe' (shape/form) and 'genesis' (creation).

an abstraction, nor is it a step toward something else: it is how we arrive and where we stay.⁸⁰

As for the twentieth century, let us just acknowledge the lesson learnt *qua Dialectics of Enlightenment*: "It is not the slumber of reason that engendered monsters, but vigilant and insomniac rationality."⁸¹

005 **Analogue Turn** In a brief overview of post-war history 9-11 would certainly be unavoidable. But this unfortunate benchmark cannot be considered without its counterpart. In a cabalistic coincidence, The Berlin Wall fell on 11-9. Its breaching tipped the balance of power across the world. Only six months later, in 1990, the user-friendly Windows 3.0 version was launched. As the Pulitzer Prize laureate Thomas L. Freeman explains: "While the fall of the wall eliminated a physical and geopolitical barrier - one that held back information, stood in the way of shared standards, and kept us from having a view of the world as a single unified community - the rise of the Windows-enabled PC, which really popularised personal computing, eliminated another hugely important barrier: the limit on the amount of information that any single individual could amass, author, manipulate, and diffuse."⁸² The world, claims the author, has finally become flat, for better (11-09) or for worse (09-11). *The Independent* has recently featured a survey of the internet's first decade with an assessment of the latest augmentation of reality and its relative success.⁸³ The article is also positing the divide between 'digital migrants' - such as the author of this dissertation - and 'digital natives' - those born into the era of the ubiquitous (broadband) internet connection. Let us sincerely hope that this is not the same divide that separates the *design of the*

⁸⁰ See: Francesco J. Varela, "The Reenchantment of the Concrete" in *The Artificial Life Route to Artificial Intelligence: Building Embodied, Situated Agents*, ed. L. Steels and R. Brooks (New Haven: Lawrence Erlbaum Assoc., 1995), pp. 11-20.

⁸¹ A quote from: Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 122. One of the most celebrated texts of the Frankfurt School, endeavouring to answer why modernity has sunk into a new barbarism, instead of fulfilling the promises of the Enlightenment (e.g. progress, reason, order): Max Horkheimer and Theodor W. Adorno, *Dialectics of Enlightenment: Philosophical Fragments* (Stanford, CA: Stanford UP, [1987] 2002). Enlightenment for Horkheimer and Adorno became a new darkness of myth as quality turned to quantity, freedom to necessity.

⁸² Thomas L. Friedman, *The World is Flat: A Brief History of the Twenty-first Century* (New York: Farrar, Straus and Giroux, 2006) pp. 54-55.

⁸³ Johann Hari, "The First Decade; Has the Internet Brought Us Together Or Driven Us Apart?" in *The Independent* (December 08, 2009), <http://www.independent.co.uk/life-style/gadgets-and-tech/features/the-first-decade-has-the-internet-brought-us-together-or-driven-us-apart-1835994.html> (accessed May 25, 2011).

world from *the world of design*.⁸⁴ Anything is possible in the world of design, as the architectural theorist Robert Somol recently demonstrated in a public lecture.⁸⁵ First he showed an iconic image of four identical Earths (°°°°). The image is meant to demonstrate how many additional resources will be needed if we continue to grow at the current rate. This is followed by an image which illustrates an impulsive (and typical) architectural reaction - to build and populate all four of them (****). The fact that they do not actually exist does not seem to bother the designer. Is this a case of the misplaced concreteness? Or even worse, a case of a self-fulfilling (PoMo) prophecy of anything goes?⁸⁶ Or worse still, an expression of total indifference (to this world)? At any rate, it is symptomatic. The simulacra prove that we have mastered the digital all too well. "Let he who is without 'SIM' cast the first stone."⁸⁷ Indeed, we can take the numbers and the bytes, compute them and project them back and make (images of) alternative roads all we want. The problem is that we have yet to grasp the analogue. Only then will we be able to join Leibniz in asking: Why is there something rather than nothing?⁸⁸ But there is another pertinent question, raised by Deleuze, which is not unrelated and begs our close attention: Why is there variation and novelty rather than identity?⁸⁹ We might want to start with the basics. This is how the cultural impresario John Brockman defines information:

[Gregory] Bateson explained to me that "information is a difference that makes a difference." A raindrop that hits the ground behind you contains no

⁸⁴ The maxim is borrowed from the subtitle of the book by Bruce Mau and the Institute Without Boundaries: *Massive Change; It's not about the world of design. It's about the design of the world* (London: Phaidon, 2004).

⁸⁵ Robert Somol, "Cartoon Plan", *The Ohio State University Baumer Lecture Series* (October 21, 2009).

⁸⁶ For a brief definition of postmodernism (PoMo) see: Terry Eagleton, *After Theory* (New York: Basic, 2003), p. 13. It is the "movement of thought which rejects totalities, universal values, grand historical narratives, solid foundations to human existence and the possibility of objective knowledge. Postmodernism is sceptical of truth, unity and progress, opposes what it sees as elitism in culture, tends towards cultural relativism, and celebrates pluralism, discontinuity and heterogeneity." See also Lyotard's highly influential formulation of postmodernism in *The Postmodern Condition: A Report on Knowledge*, commissioned by the government of Quebec and published in 1979.

⁸⁷ Play of words: *sim*, as in computer memory, instead of the (original) *sin*. See: Tim Morton, *The Ecological Thought* (Cambridge, Massachusetts and London, England: Harvard University Press, 2010), p.78.

⁸⁸ Leszek Kolakowski, *Why is There Something Rather Than Nothing?* (London: Penguin Books, 2004).

⁸⁹ James Williams, *Gilles Deleuze's Logic of Sense: A critical introduction and guide* (Edinburgh: Edinburgh UP, 2008), p. 102.

information. The raindrop that hits you on the nose has information. *Information is a measure of effect.*⁹⁰ [emphasis added]

1.1.3 Transdisciplinarity and Disciplinary Specificity

006 **PoMo Relativism** Slavoj Žižek's diagnosis of the struggle for intellectual hegemony between postmodern Cultural Studies and the cognitivist popularisers of 'hard' sciences is still relevant, a decade on.⁹¹ The so-called Third Culture covers a vast range of theories: From the evolutionary theory to quantum physics and cosmology, cognitive sciences, neurology, theory of chaos and complexity, studies of the cognitive and general social impact of digitalisation of everyday life, to auto-poetic systems.⁹² The theorists and scientists involved have been endeavouring to develop a universal formal notion of self-organising emergent systems. These systems apply to 'natural' living organisms and species, as well as social 'organisms' such as markets and other large groups of interacting social agents. On the other hand, there are cultural theorists whose pseudo-radical stance against 'power' or 'hegemonic discourse' effectively involves the gradual disappearance of direct and actual political engagements outside the narrow confines of the academia, as well as the increasing self-enclosure in an elitist jargon that precludes the very possibility of functioning as an intellectual engaged in public debates. So, the choice, according to Žižek, comes down to either dealing with an all-too-fast or metaphoric transposition of certain biological-evolutionist concepts to the study of the history of human civilisation, or - in the case of cultural studies - sharing the stance of cognitive suspension, characteristic of postmodern relativism. But as Žižek concludes, 'prohibited' ontological issues seem to have returned (with a vengeance) in the former case. In clear contrast to the strict prohibition of direct 'ontological' issues in cultural studies, the proponents of the Third Culture unabashedly approach the most fundamental pre-Kantian metaphysical issues such as the ultimate constituents of

⁹⁰ John Brockman, *Digerati: Encounters with the Cyber Elite* (HardWired Books, 1996), <http://www.edge.org/documents/digerati/Prologue.html> (accessed May 25, 2011). For information on information in cultural theory see: Tiziana Terranova, "Communication beyond Meaning: On the Cultural Politics of Information" in *Social Text* 80 (Vol. 22, No. 3, 2004). See also: Tiziana Terranova, *Network Culture: Politics for the Information Age* (London: Pluto, 2004).

⁹¹ Slavoj Žižek, "Lacan Between Cultural Studies and Cognitivism", in *UMBR(a): A Journal of the Unconscious* (No. 4, 2000), pp. 9-32.

⁹² Chaos theory works from the simple to the complex, while Complexity theory works from the complex towards the simple. Two highly readable, nonmathematical treatments which capture the paradigm-breaking nature of dynamic systems are Prigogine and Stengers' *Order Out of Chaos: Man's New Dialogue with Nature* (1984) and Gleick's *Chaos: Making a New Science* (1987).

reality, time, space, the origins and the end of universe, what consciousness is, how life emerged, and so on.

007 **PoPoMo Correlationism** The struggle has recently been rekindled with the so-called Speculative Turn triggered by Quentin Meillassoux's *After Finitude* (2006).⁹³ It is also worth pointing out that we have by now drifted out of all-too-structuralist postmodernity. In the words of Claire Colebrook: "It is [the] equivocality that engenders postmodernism, for it establishes the signifier, system, subject on the one hand, and the real or the retroactively constituted world on the other."⁹⁴ What binds an otherwise heterogeneous group of Speculative Realists is their shared antipathy for the so-called *correlationism*.⁹⁵ A correlationist accepts that we only ever have access to the correlation between thinking and being - epistemology and ontology - and never to either of the terms in isolation.⁹⁶ In other words, correlationism marks a self-reflexive loop (marked by finitude) where nothing can be independent of thought. The familiar flavour of cognitive suspension or plane agnosticism *vis-à-vis* the 'outside' (noumenon) is shared by most post-Kantians.⁹⁷ Kant, himself a 'weak correlationist', did in fact allow for

⁹³ Quentin Meillassoux, *After Finitudes: An Essay on the Necessity of Contingency* (London, New York, Continuum, [2006] 2008). See also: Levi Bryant, Nick Srnicek and Graham Harman, *The Speculative Turn: Continental Materialism and Realism* (Melbourne: re.press, 2011).

⁹⁴ Claire Colebrook, "Postmodernism Is a Humanism: Deleuze and Equivocity" in *Women: a cultural review* (Vol. 15 No 3, 2004), p. 288, 292. "Postmodernism, if it is understood as a system of signification that is radically detached from the real or that produces and constitutes the real, is equivocal. As opposed to Deleuze's ontology of univocity in which there is just one plane of expression, equivocality posits two radically incommensurable levels."

⁹⁵ By the proponents' own account, speculative realism does not really exist, rather it is a generic term for a group of thinkers that advocate very different ontologies and epistemologies that are often opposed to one another. The two features that unite them is (1) a commitment to some variant of realism and (2) refusal to privilege the world-human correlate.

⁹⁶ In the words of Bateson: "Philosophers have recognized and separated two sorts of problem. There are first the problems of how things are, what is a person, and what sort of a world this is. These are the problems of ontology. Second, there are the problems of how we know anything, or more specifically, how we know what sort of a world it is and what sort of creatures we are that can know something (or perhaps nothing) of this matter. These are the problems of epistemology." See: Gregory Bateson, "The Cybernetics of 'Self': A Theory of Alcoholism" in *Psychiatry* (Vol. 34, No. 1, 1971), pp. 1-18.

⁹⁷ According to DeLanda, "[M]any academic departments, particularly those that attach the label 'studies' to their name, completely forgot about material life and concentrated instead on textual hermeneutics. To make things worse this *conservative turn* was concealed under several layers of radical chic, making it appealing to students and even activists pursuing a more progressive agenda." See: Manuel DeLanda, "Materialism and Politics" in

the possibility of the 'in-itself' albeit unknowable.⁹⁸ But if the idea of the world independent of our access seems unintelligible, as another speculative realist Ray Brassier cautions, perhaps the fault lies more with our notion of intelligibility than with the world:

[T]he phenomenological radicalization of transcendentalism, initiated by Heidegger, found itself excavating deeper and deeper into the 'primordial' [...] uncovering the conditions for the conditions of the conditions. Yet, the deeper it digs towards the pre-originary the more impoverished its resources become and the greater its remove from things themselves. Heidegger and his successors end up striving for the pre-reflexive through increasingly reflexive means; exacerbating abstraction until it becomes reduced to [...] playing its own exuberant vacuity. This meta-transcendental problematic reaches some sort of apogee in Derrida who introduces both a healthy measure of scepticism and a fatal dose of irony into the proceedings by revealing how the immediacy of access was always already contaminated by mediation or *différance*. [...] Once the problematic of access and of the access to access has reached its ironic *dénouement* in this terminally self-enclosed spiral of reflexivity it is no surprise to see the very notion of a world indifferent to our access to it dismissed as unintelligible. Phenomenology begins with the things themselves, and ends up pouring over words, nothing but words. Perhaps, this is inevitable *dénouement* of the philosophy of access [correlationism].⁹⁹

008 **Realism** Denying realism amounts to megalomania, according to Karl Popper. But we need to bear in mind that not so long ago a Realist 'coming out' and

Deleuze: History and Science, ed. Wolfgang Schirmacher (New York and Dresden: Atropos Press, 2010), p. 29.

⁹⁸ See: Erwin Schrödinger, *What is life? The Physical Aspect of the Living Cell*. (Based on lectures delivered under the auspices of the Dublin Institute for Advanced Studies at Trinity College, Dublin, 1943). "There are, of course, elaborate ghost-stories fixed in our minds to hamper our acceptance of [...] simple recognition. E.g. it has been said that there is a tree there outside my window but I do not really see the tree. By some cunning device of which only the initial, relatively simple steps are itself explored, the real tree throws an image of itself into my the physical consciousness, and that is what I perceive. If you stand by my side and look at the same tree, the latter manages to throw an image into your soul as well. I see my tree and you see yours (remarkably like mine), and what the tree in itself is we do not know. For this extravagance Kant is responsible. In the order of ideas which regards consciousness as a *singulare tantum* it is conveniently replaced by the statement that there is obviously only one tree and all the image business is a ghost-story."

⁹⁹ Keynote lecture by Ray Brassier, "The Pure and Empty Form of Death: Deleuze and Heidegger", *AV Journal* (#2, 2006). "One cannot but be struck by the ironic spectacle of the later Heidegger trying to uncover the roots of the primal phenomena (*Ur-etwas*) in old Greek words." <http://www.hssr.mmu.ac.uk/deleuze-studies/journal/av-2/> (accessed May 25, 2011).

embracing a mind-independent reality would be met with ridicule. It would have been considered, at the very least, as naïve. Still, the (new) materialism in general, and the (empiricist) Affective Turn in particular, seem to be gaining momentum to such an extent that even some of the scholars of this affiliation urge caution.¹⁰⁰ As it happens, many a logocentric thinker has been unjustly turned into a straw person. As Charles T. Wolfe cautions, "the trick is to not go all the way with embodiment, so as not to end up in what Deleuze, speaking of Maurice Merleau-Ponty, called the 'mysticism of the flesh'."¹⁰¹ However, as far as the discipline of architecture is concerned, this otherwise healthy dose of scepticism is not only utterly premature but also counterproductive, and quite literally so. Somewhat paradoxically, architecture has historically undergone a gradual disassociation from the material realm and become an ultimate white-collar profession. The consequent withdrawal from reality ("into itself") has been seen either as (bad) escapism or as a (good) strategy of resistance: "The withdrawal is into an idealist realm, a realm secluded from everyday life and from contamination by the unacceptable new order."¹⁰² The urge to ward off the givens and to continue to contemplate alternatives is most worthy. Especially in the light of the recent tendency to jump on the band wagon of ¥€\$ (is more) "pragmatic yet utopian [sic] third way."¹⁰³ Architects seem desperate in their effort to catch up with the media. The non-normative has become the norm, writes Terry Eagleton.¹⁰⁴ The

¹⁰⁰ Keynote lecture by Claire Coolebrook at the *7th European Feminist Research Conference: Gendered Cultures at the Crossroads of Imagination, Knowledge and Politics* (Utrecht June 4-7, 2009). Under the title "Sexuality and the Politics of Vitalism," Colebrook declared a recent shift in knowledge paradigms away from linguistic, intellectual and cognitive approaches and towards experience accompanied by a turn to embodiment, affect, vitality and the dynamism of knowledge. According to her, many of these vitalist appeals for corporeal and transhuman life - for all their claims to radicalism and posthumanism - harbour highly normative masculinist, organicist and Western presuppositions regarding proper life. By examining the ways in which the crisis of our imagined future has enabled a return to life, Colebrook advanced the case for a counter-vitalism that is also anti-organicist.

¹⁰¹ Charles T. Wolfe, "De-ontologizing the Brain; from the fictional self to the social brain" in *CTheory*, ed. Arthur and Marilouise Kroker (2007). "After all, is there anything metaphysically unique about flesh, skin or the brain which makes them do what they do? [...] *not to get too comfortable with embodiment either*, since the brain is necessarily located within the social and symbolic world: this is what I mean by 'de-ontologizing the brain'." <http://www.ctheory.net/articles.aspx?id=572> (accessed May 25, 2011).

¹⁰² Tahl Kaminer, *The Idealist Refuge: Architecture, Crisis, and Resuscitation* (TU Delft Doctoral Dissertation, 2008), p. 9.

¹⁰³ Bjarke Ingels, *Yes Is More: an Archicomic on Architectural Evolution* (Köln: Evergreen, 2010).

¹⁰⁴ See: Terry Eagleton, *After Theory* (New York: Basic, 2003), pp. 16-17. "Nowadays, it is not just anarchists for whom anything goes, but starlets, newspaper editors, stockbrokers and corporation executives. The norm is money; but since money has absolutely no

spearhead of critical theory in architecture Michael Hays laments how the most theoretically aware contemporary architects have unfortunately rejected what he sees as the most important operative concept of the theory of architecture at the moment of its re-foundation in the 1970s, namely *autonomy*.¹⁰⁵ But idealist bracketing also comes at a price. Architects might end up painting themselves into a corner of impotence by depriving themselves of the means to intervene which, after all, has always been the main trait of (any) materialism.¹⁰⁶ As Eugene Holland admits, "any postmodern Marxism worthy of the name will want to abandon teleology and adopt contingency and emergence as better paradigms for understanding history."¹⁰⁷ This is how architects Reiser and Umemoto proclaim the new materialist position:

We assert the primacy of material and formal specificity over myth and interpretation. In fact, *while all myth and interpretation derives from the immediacy of material phenomena, this equation is not reversible*. When you try to make fact out of myth language only begets more language, with architecture assuming the role of illustration or allegory. This is true not only of the initial condition of architecture but actually plays out during the design process in a similar way. Material practice is the shift from asking "what does this mean?" to "what does this do?"¹⁰⁸ [emphasis added]

principles or identity of its own, it is no kind of norm at all. It is utterly promiscuous, and will happily tag along with the highest bidder. It is infinitely adaptive to the most bizarre or extremist of situations, and like the Queen has no opinions of its own about anything."

¹⁰⁵ See: Michael K. Hays, "Ideologies of Media and the Architecture of Cities in Transition" in *Cities in Transition*, ed. Deborah Hauptmann (Rotterdam: 010 Publishers, 2001), pp. 262-273. "[T]he aspiration to an autonomy of disciplinary forms and techniques as a way of creating and measuring the distance between a critical practice and the degraded status quo of consumer culture." Hays sincerely admits that he is not yet fully able to account for this new attitude but wants to reflect on it and on "the ideologies it has replaced". The ideologies he is referring to were written almost in a form of a manifest and were issued by coincidence ("or perhaps not") in 1966: Rossi's *The Architecture of the City* and Venturi's *Complexity and Contradiction in Architecture*.

¹⁰⁶ "[F]it for the boudoir, and not for the street." See: Arie Graafland, "On Criticality" in *Crossover: Architecture, Urbanism, Technology* (Rotterdam: 0101 Publishers, 2006), p. 698. Cf. Manfredo Tafuri, "L'architecture dans le boudoir" in *The Sphere and the Labyrinth: Avant-gardes and Architecture from Piranesi to the 1970s* (Cambridge, MA: MIT Press, 1987) pp. 267ff.

¹⁰⁷ Eugene W. Holland, "Nonlinear Historical Materialism and Postmodern Marxism" in *Culture, Theory & Critique* (No. 47(2), 2006), p. 184. For an overview of the range of topics that New Materialism concerns itself with, see: Diana Coole and Samantha Frost, *New Materialisms: Ontology, Agency, and Politics* (Durham and London: Duke UP, 2010).

¹⁰⁸ See: Jesse Reiser and Nanako Umemoto, *Atlas of novel Tectonics* (New York: Princeton Architectural Press, 2006), p. 23. See also Geoffrey Scott, *The Architecture of Humanism* (New York: W.W. Norton, [1914] 1974), p. 168. "The functions of the arts, at many points, overlap; architecture has much that it holds in common with sculpture, and more that it

We cannot afford to throw out the baby of toolkit with the bath water of ideology "precisely because it is not a matter of ideology, but of a machination."¹⁰⁹ The best strategy of resistance seems to lie not in opposition but in (strategic) affirmation. To embrace naturalism is to see cognition as belonging to the same world as that of its 'objects'.¹¹⁰ There is no need to postulate the existence of a more fundamental realm (transcendental 'skyhooks'). *Natura naturans* (naturing nature/creator) and *natura naturata* (natured nature/created) are inseparable. There is no ultimate foundation, but the immanence of powers, relations, and bodily compositions: "power is not homogeneous, but can be defined only by the particular points through which it passes."¹¹¹ The first step to break out of the pernicious self-reflexive loop is to acknowledge that - with or without us - matter does matter. This is what Charles Sanders Peirce refers to as 'firstness'. Then there are relations or 'secondness'. Crudely put, the dyad marks the difference between the (intrinsic) properties and (extrinsic) capacities. Lastly, there is also the 'centre of indetermination' or 'thirdness' where an interval between perception and action is inserted (the mind). It is crucial not to dismiss the "pedagogy of the senses", where secondness presupposes firstness, and thirdness incorporates both firstness and secondness.¹¹² This is another way of saying that everything starts with the sensible or, as Whitehead's disciple Susane Langer put it: "All thinking begins with seeing."¹¹³ It is neither about the appearance of essence, nor about the conditions of apparition. Rather, it is about the *mutual* presupposition of the virtual - the modality with the real-yet-not-actual ontological status - and the

shares with music. But it has also its peculiar province and a pleasure which is typically its own. It has the monopoly of space. Architecture alone of the Arts can give space its full value. It can surround us with a void of three dimensions; and whatever delight may be derived from that is the gift of architecture alone. Painting can depict space; poetry, like Shelley's, can recall its image; music can give us its analogy; but architecture deals with space directly; it uses space as a material and sets us in the midst."

¹⁰⁹ See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosology*, ed. Sylvère Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 115.

¹¹⁰ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001), p. 73.

¹¹¹ Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 25.

¹¹² Charles Sanders Peirce, "'The principles of Phenomenology'" in *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover Publications, 1955), 74-97.

¹¹³ Susane K. Langer, *Philosophy in a New Key* (Cambridge, Mass.: Harvard University Press, 1957), p. 95. See also: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 250. "The having of ideas is a fact, but it is not a prerequisite of perceiving. Perhaps it is a kind of extended perceiving."

actual, where the virtual would be utterly sterile without the actual.¹¹⁴ The reciprocity of the two is crucial, as the cultural studies scholar Lawrence Grossberg explains in a recent interview:

[T]he distinction between possibility and virtuality is crucial, and I think that most theories of imagination have been theories of possibility. Of which, the utopian is the most obvious example. The result has been a politics that is almost never rooted in the present. But I think one must look to the present because it is in the present that you find the virtual, that you find the contingency.[...] I think it is rooted in the possibility (if one can use that word) of reconceiving the imagination as intimately connected with the analytics of the empirical. Imagination is not separate from science, analysis, or description of the actual. Imagination has to be rethought as a rediscovering of the contingent, the virtual in the actual [...] and that it seems to me is a very different notion of the imagination than what the Left has ever had.¹¹⁵

The world, after all, "does not exist outside of its expression."¹¹⁶ Deleuze and Guattari were explicit about this often misunderstood maxim. Transcendence is always a product of immanence. One could argue that 'reification' is necessary for the expression to start 'migrating,' a major precondition for the creation of an artistic style.¹¹⁷ It has become somewhat common for their epigones to favour the

¹¹⁴ 'Virtuality' - from the Latin *virtualis*, or that which exists potentially but not actually - is a form of physical modality, distinct from possibility and necessity to account for the double status of singularities which are real in their effects but incapable of ever being actual. See: Manuel DeLanda, "Deleuze in Phase Space" in *Virtual Mathematics*, ed. Simon Duffy. (Manchester: Clinamen Press, 2006.), p. 150. See also: Daniel W. Smith, "Deleuze's concept of the virtual and the critique of the possible" in *Journal of Philosophy: A Cross Disciplinary Inquiry* (Vol. 4, No. 9, 2009), pp. 29-42.

¹¹⁵ Lawrence Grossberg, "Affect's Future: Rediscovering the Virtual in the Actual (in an interview by Gregory J. Seigworth & Melissa Gregg)" in *The Affect Theory Reader*, ed. Gregory J. Seigworth and Melissa Gregg (Durham, NC: Duke University Press: 2010), p. 320. "And this connects up much more with the pragmatists. I think that the way in which you enhance imagination is not to erase the present and allow your mind to rove free (as it were) but precisely to enhance your understanding of the present. A better understanding of the present is the condition of possibility for better imagination. Imagination involves empirical labor. At least this is what I have been trying to think through."

¹¹⁶ Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 152.

¹¹⁷ We refer here to the "specialised lines of expression" such as (one-dimensional) genes or (epi-genetic) words. See: Manuel DeLanda, "Deleuze, Materialism and Politics" in *Deleuze and Politics*, ed. Ian Buchanan and Nicholas Thoburn. (Edinburgh: Edinburgh University Press, 2008.), p. 165. "While before the rise of living creatures all expression was three dimensional – the geometry of a crystal, for example, was what expressed its identity – genes are a one-dimensional form of expression, a linear chain of nucleotides, and this linearization allows material expressivity to specialize."

virtual over its expression.¹¹⁸ But the fact of the matter is that you cannot have one without the other. Expression is not the meaning but the torsion of both the expressor and the expressed. If 'non-organic vitality' is the content, argues Zourabichvili, then expression is its 'agrammatical syntax'.¹¹⁹ Their determination is absolutely reciprocal. In any event, it is useless to seek a more substantial truth behind the phantasm (essence of appearance). Furthermore, seeking such a truth via a confused sign leads to mere *symptomatology*.¹²⁰ It is equally futile to contain the truth within stable figures (sense of apparition): "to construct solid cores of convergence where we might include, on the basis of their identical properties, all its angles, flashes, membranes, and vapors."¹²¹ Hence there is no possibility of *phenomenalisation* either because every form, conversely, is a compound of the relationship between forces. This is how Michel Foucault sees Deleuze's countereffectuating strategy as a way of overcoming both 'bad habits', namely, symptomatology and phenomenalisation:

Phantasms [incorporeal events] do not extend organisms into the imaginary; they topologize the materiality of the body. They should consequently be freed from the restrictions we impose upon them, freed from the dilemmas of truth and falsehood and of being and nonbeing (the essential difference between simulacrum and copy carried to its logical conclusion); they must be allowed to conduct their dance, to act out their mime, as 'extrabeings'.¹²²

Traditionally, the truth was defined as *adequation* and *noncontradiction*. As we will try to demonstrate, both claims can be challenged from the perspective of a

¹¹⁸ As Bernard Cache cautions, the key is not to repeat the mistake of the avant-garde at the beginning of the twentieth century who, with the onset of new technologies, immediately dismissed the older techniques and ideas as outmoded and anachronistic: "[L]istening to architects describing how we were living in a non-Euclidian, virtual space. I just couldn't stand it any longer and had to respond." See: Bernard Cache, "George L. Legendre in Conversation with Bernard Cache" in *AA Files* (No. 56, 2007).

¹¹⁹ François Zourabichvili, "Six Notes on the Percept (On the Relation between the Critical and Clinical)" in *Deleuze: A Critical Reader*, ed. Paul Patton (Cambridge, MA: Blackwell, 1996), p. 202.

¹²⁰ A near synonym of symptomatology is 'interpretosis,' the 'despotic' legacy of any discourse whose primary pivot is the signifier." See: Jeffrey T. Nealon, "Beyond Hermeneutics: Deleuze, Derrida and Contemporary Theory" in *Between Deleuze and Derrida*, ed. Paul Patton and John Protevi (New York: Continuum, 2003), p. 160.

¹²¹ See: Foucault's Review of Deleuze's *Logic of Sense* (1969) and *Difference and Repetition* (1968) *Theatrum Philosophicum*. The essay originally appeared in *Critique* (No. 282, 1970), pp. 885-908.

¹²² Michel Foucault, "Theatrum Philosophicum" in *Critique*, (No. 282, 1970), pp 885-908. "The *Logic of Sense* can be read as the most alien book imaginable from *The Phenomenology of Perception* [by Merleau-Ponty]."

genealogical method. If there is no referent, the former loses all meaning, while the requirement for the latter is shown to depend on the illusion of the potential mastery of a wholly self-transparent discourse, namely, phenomenology.¹²³

009 **Non-Discursive** A lot of lip service has been paid to bridging the gap between theory and practice but the true imperative should be to stop regarding trans-disciplinarity (smoothing), with its nomadic structure, and disciplinary specificity (striating) as mutually exclusive. It should not come as a surprise that some of the most prominent beacons of contemporary architectural theory are happily 'trespassing'.¹²⁴ What binds them is zero degree tolerance for narrow-mindedness. Another imperative is to exclude - once and for all - the law of the excluded middle. We need to get rid of this Ockhamite tendency because *not all the potentialities are an already accrued value*. In this way architecture will be able to reclaim the *medium* specificity from a genuine realist/materialist position and be treated rightfully as a non-discursive practice.¹²⁵ This will certainly not be easy as the hegemonic binary system knows no such logic. Its inherent dualism brings together the most unlikely of allies: the Cartesians and Informationists (ex-Cybernetics).¹²⁶ Regrettably the media theorist Friedrich Kittler is right to

¹²³ Luc Ferý and Alain Renault, *French Philosophy of the Sixties: An Essay on Antihumanism* (Amherst: University of Massachusetts, [1985] 1990), p. 9. "[W]hich [i.e. phenomenology] the hypothesis of an unconscious, or more generally of an exterior that motivates all discourse without the speaker's knowledge, specifically excludes."

¹²⁴ For example, 'street philosopher' DeLanda, 'physicist' Kipnis, and 'literary theorist' Kwinter. Kwinter firmly believes that the question of space "can no longer be thought fruitfully within the domain of language or even within its broader analytical paradigm, but only through the minute study of our physical, material and technical milieus - of which language is little more than a subset." See: Sanford Kwinter, "On Vitalism and the Virtual" in *Pratt Journal of Architecture: On Making*, (New York: Rizzoli, 1992), p. 185.

¹²⁵ The insistence on medium-specificity arose in the era of modernism and has become associated with the art critic Clement Greenberg. The concept, however, can be traced back to Gotthold Ephraim Lessing's 1766 essay, *Laocoon*. Lessing dismantles Horace's famous claim *ut pictura poesis* [as is painting, so is poetry], arguing that these media are inherently different. While poetry unfolds in time, painting exists in space. By contrast, architecture, we suggest, exists in space-time. In this we side with McLuhan in that the medium is specific through its effect and not its content. As Henry Moore wrote: "Rodin of course knew what sculpture is: he once said that sculpture is the science of the bump and the hollow." See: Philip James, *Henry Moore on Sculpture* (New York, Da Capo Press, 1992).

¹²⁶ Hayles discusses the regime of computation (complexity to complexity) as an alternative to classical metaphysics (simplicity to complexity). See: Katherine Hayles, *My Mother was a Computer: Digital Subjects and Literary Texts* (Chicago: The University of Chicago Press, 2005), p. 15. "Recently, [...] strong claims have been made for digital algorithms as the language of nature itself. If, as Stephen Wolfram, Edward Fredkin, and Harold

credit the father of the information theory Claude Shannon with writing the most influential master thesis ever.¹²⁷ By Kittler's account, Shannon even "thought digitally", which is plausible and, for that, all the more dangerous, just as any other approach which distinguishes between meaning and information. Opposing "the static Aristotelian duality" of Form and Matter with the "meta-theoretical trinity" of Processing (executing commands), Transmitting (requiring an address) and Storing (memory as data base) is not helpful.¹²⁸ The analogy between needing an address to retrieve computer data and an address to locate a house in a city (or even to recall memories) is as popular as it is misleading. It all seems to boil down to the following 'dilemma', as posited by Gibson:

The issue between the two kinds of theory [primacy of language vs. primacy of perception] can be illustrated by the following question. Does a child distinguish between two physically different things only after he has learned to make different responses to each, names, for example; or does he first learn to distinguish them and then (sometimes) attach names? On the former alternative he must learn to respond to things; *on the latter he must learn to respond to the difference.* [...]The issue is deep and far-reaching.¹²⁹ [emphasis added]

010 **Ecosophy** Indeed, what motivated the present research and dissertation is the architect's habit of taking for granted the homology between representation and 'presentation'. There is widespread consensus on this fallacy among laymen and professionals alike. As Robin Evans diagnosed, "we are landed not only with a picture theory of vision, but with a pervasive picture method of construction for manufactured objects as well."¹³⁰ We are also landed with the hypothesis of the five senses, the proof of Aristotle's enduring authority. The number five relates to the supposed channels of sensation running from the periphery to the centre. In the case of vision, the sequence is all-too-familiar: Object > Retinal Image >

Morowitz maintain, the universe is fundamentally computational, code is elevated to the *lingua franca* not only of computers but of all physical reality."

¹²⁷ Kittler represents a stream of media theory which came out as an alternative to the Marxist and hermeneutic theories dominating the German discourse in the latter part of the twentieth century. Shannon's paper drawn from his 1937 master's thesis, "A Symbolic Analysis of Relay and Switching Circuits", was published in the 1938 issue of the *Transactions of the American Institute of Electrical Engineers*.

¹²⁸ Also known as the triad of making, storing and transmitting. The attempt to "fix" dialectics by introducing a third term is a well known yet futile exercise.

¹²⁹ James Jerome Gibson: *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 282.

¹³⁰ See: Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), pp. 359, 370. "Imagination and visual perception are shown as pictures [in author's depiction], because that is how they are normally described. They are not pictures, but the very fact that both are thought of in that way is very significant."

Image in the Brain > Various Operations on the Sensory Image > Full Consciousness of the Object and its Meaning.¹³¹ Such an approach to perception - as the conscious experience of sensory input - remains in its essence Aristotelian through and through. The philosopher of mind Susan Hurley named the implicit model of the mind behind such an approach as the 'classical sandwich', with perception as input, action as output, and cognition as in-between.¹³²

We see with our eyes, don't we? No, Gibson was resolute, we see with saccading eyes in the mobile head on the locomotive body supported by the ground, the brain being only the central organ of an entire visual *system*.¹³³ According to Gibson, the brain may produce sensations, hallucinations, dreams, illusions, and after-images, *but never perceptions*. You are not your brain.¹³⁴ The perceptual system is synaesthetic, that is, cross-modal and supported by proprioception which refers to the body's ability to sense movement within joints and their position. It is therefore also kinaesthetic and, as such, inseparable from action.¹³⁵ Kinaesthesia is not *like* something, explains the proponent of the Corporeal Turn Maxine Sheets-Johnstone, it is what it is.¹³⁶ *Neither thingness, nor essentiality*.¹³⁷ Seeing is a matter of skill and participation, and not

¹³¹ This fallacy has become commonplace. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 252.

¹³² Susan. L. Hurley, *Consciousness in Action* (Cambridge, MA: Harvard UP, 1998).

¹³³ J.J. Gibson rejects a snapshot/aperture conception of vision in favour of the ambient/ambulatory one. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p.1.

¹³⁴ The substitution of the *brain* for the Cartesian *spirit* is known as the "Francis Crick Fallacy". As Crick wrote in the journal *Nature*: "Scientists need no longer stand by listening to the tedious arguments of philosophers perpetually disagreeing with each other. The problem of consciousness is now a scientific problem [sic]" See: Interview with Alva Nöe by Gordy Slack, *You are not your brain* (2009), http://socrates.berkeley.edu/~noe/an_interviews.html (accessed May 25, 2011). See also: Charles T. Wolfe, "De-ontologizing the Brain From the fictional self to the social brain" in *CTheory*, ed. Arthur and Marilouise Kroker (2007), www.ctheory.net/articles.aspx?id=572 (accessed May 25, 2011).

¹³⁵ The 'perceptual system' thesis was set out by Gibson in an earlier book: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966). For a contemporary account of proprioception see: Brian Massumi, *Parables for the Virtual; Movement, Affect, Sensation* (Durham: Duke University Press, 2002).

¹³⁶ Maxine Sheets-Johnstone, *The Primacy of Movement* (Aarhus: Aarhus University, Department of Philosophy, 1999), pp. 139, 146-150. See also: Maxine Sheets-Johnstone, ed. *The Corporeal Turn: An Interdisciplinary Reader* (Exeter: Imprint Academic, 2009).

¹³⁷ See: Gilles Deleuze, *Cours Vincennes*: "Anti Oedipe Et Mille Plateaux" (February 27, 1979), <http://www.webdeleuze.com/php/texte.php?cle=186&groupe=Anti%20Oedipe%20et%20Mille%20Plateaux&langue=2> (accessed May 25, 2011). "Essentiality is the property of formal, fixed essences, the circle. Thingness is the property of sensible, perceived, formed things, for example the plate or the sun or the wheel."

contemplation. Perception and action are not propositions, nor are they based on a proposition and cannot, therefore, be either correct or incorrect.¹³⁸ The ecological approach to perception knows no such thing as 'sense data'. *Ecological*, it must be qualified, stands for reciprocity between the life form and its environment.¹³⁹ Their mutual relation is not one of computing but of resonance. It is no coincidence that the School of Ecological Perception describes perceiving as *tuning in* - as in radio frequency – as opposed to the *computational* metaphor (with the brain as a computer, eye as a camera, and so on).¹⁴⁰ Perception cannot be considered independently of the environment since it is defined as an evolved adaptive and constructive relation between the organism and the environment. Unfortunately, experimental psychology research has relied overwhelmingly on *object* perception, rather than environment perception, with the findings of the former providing the basis for understanding the latter.¹⁴¹ Architecture continues to suffer from this fallacy. Arguably the greatest feat of contemporary psychology has been to include the environment of life forms in the study of the psyche.¹⁴² To separate the 'cultural' from the 'natural' environment - as if there were a world of mental and a world of material products - is a fatal mistake. *There is only one world.*¹⁴³ Only recently have biologists considered the (feed-back/feed-forward) effect of the 'niche construction' on the inheritance system.¹⁴⁴

¹³⁸ See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 109.

¹³⁹ The word *ecology* comes from the Greek *oikos*, a house. But it can also mean household, family, milieu, vicinity, habitat, or environment.

¹⁴⁰ The animal may change as a consequence of experience, but we view that change not as an accumulation of knowledge, but as a keener ability to detect the affordances of the environment. According to Gibson, learning becomes the education of attention. See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 270.

¹⁴¹ William H. Ittelson, "Environment Perception and Contemporary Perceptual Theory" in *Environment and Cognition* (New York: Seminar Press, 1973), p. 142.

¹⁴² Chemero and Silberstein provide a comprehensive taxonomy of the two most important debates in the philosophy of the cognitive and neural sciences. The first debate is over methodological individualism: is the object of the cognitive and neural sciences the brain, the whole animal, or the animal-environment system? The second is over explanatory style: should explanation in cognitive and neural science be reductionist-mechanistic, inter-level mechanistic, or dynamical? Our thesis unequivocally sides with the dynamical animal-environment system approach which we name Gibsonism. See: Anthony Chemero and Michael Silberstein, "After the Philosophy of Mind: Replacing Scholasticism with Science" in *Philosophy of Science* (No. 75, January 2008), pp. 1-27.

¹⁴³ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 130.

¹⁴⁴ See: John Odling-Smee, "Niche Inheritance: A Possible Basis for Classifying Multiple Inheritance Systems in Evolution" in *Biological Theory* (Vol. 2, No. 3, 2007), pp. 276-289. The 'epigenetic turn' calls for a re-examination of the status of Lamarckism. In contrast to

The theory of niche-construction proposes that an organism does not passively submit to the pressures of a pre-existing environment, but that it actively constructs its niche (genetically, epigenetically, behaviourally, and symbolically). Implications for the discipline of architecture are obvious: perception is an important area of study because it provides information about the environment which is in turn intimately related to the life of life forms. Architecture ought to reclaim its vanguard position within the Epigenetic Turn which embraces technology in general terms (*tekhne*) as constitutive of humanity, and not merely the other way around.¹⁴⁵ It is high time to complement the passive principle of natural selection (logical argument) with the active principle of self organisation (natural argument).¹⁴⁶ The principle of *exteriorisation* - the city as an exo-skeleton is a good example - is evolution continued by other means. This is beautifully illustrated in the opening scene of *2001: A Space Odyssey* (1968) by Stanley Kubrick, compressing 4.4 million years of tool evolution from the bone to the spaceship.¹⁴⁷ The epigenetic structure of inheritance and transmission is, as the very term suggests, external and non-biological. As such it transcends our particular existence. It extends beyond our biological finitude. Moreover, as Guattari claims "[M]an and the tool *are already* components of a machine constituted by a full body [socius] acting as an engineering agency, and by men and tools that are engineered (*machinés*) insofar as they are distributed on this body."¹⁴⁸ [emphasis in the original] The long-lasting legacy of privileging *episteme* over *tekhne* needs to be rethought, as the philosopher of technology Bernard Stiegler urges.¹⁴⁹ The 'what' (*tekhne*) invents the 'who' (the human) at the same time that it is invented by it. Strictly speaking, architecture, as a *sedimented* epi-genetic (mnemonic) device, has an even higher order of autonomy which makes it epi-phylo-genetic.¹⁵⁰ If epigenetics is the concept of non-genetic

Darwinism, Lamarckian inheritance is the idea that an organism can pass onto its offspring characteristics that it acquired during its lifetime.

¹⁴⁵ 'Epigenesis' is the term used to describe the relatively mysterious process of how form emerges gradually but dynamically out of a formless or homogeneous environment or substrate. See: Sanford Kwinter, "Soft Systems" in *Culture Lab*, ed. Brian Boigon (New York: Princeton Architecture Press, 1993), p. 214.

¹⁴⁶ Against the second law of thermodynamics: *negentropy* (negative entropy).

¹⁴⁷ It is a difference in degree before it is a difference in kind. See: Stanley Kubrick, *2001: A Space Odyssey*, (1968).

¹⁴⁸ See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosophy*, ed. Sylvère Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 110.

¹⁴⁹ Bernard Stiegler, *Technics and Time 1: The Fault of Epimetheus* (Stanford, California: Stanford UP, 1998).

¹⁵⁰ Bernard Stiegler, "Who? What? The Invention of the Human," in *Technics and Time, 1: The Fault of Epimetheus* (Stanford, CA: Stanford University Press 1998), pp. 134-179. Biologist Conrad Waddington (1905-1975) is often credited with coining the term epigenetics in 1942 as "the branch of biology which studies the causal interactions

heritability (such as language acquisition), than epi-phylo-genetic means that the rhetoric of "We Build our Cities and in Return They Build Us" is to be taken literally.¹⁵¹ Stiegler explains:

Epiphylogenetics, a recapitulating, dynamic and morphogenetic (*phylogenetic*) accumulation of individual experience (*epi*), designates the appearance of a new relation between the organism and its environment, which is also a new state of matter. If the individual is organic organized matter, than its relation to its environment (to matter in general, organic or inorganic), when it is a question of a *who*, is mediated by the organized but inorganic matter of the *organon*, the tool with its instructive role (its role *qua* instrument), the *what*. It is in this sense that the *what* invents the *who* just as much as it is invented by it.¹⁵²

It is time for the discipline to awaken from the slumber of anthropocentrism and shake off the baggage of old dualisms. Deleuze and Guattari propose that we drop anthropomorphism for geomorphism. In the same vein, Keith Ansell-Pearson calls for a major reconfiguration of ethology: "Behaviour can no longer be localised in individuals conceived as preformed homunculi, but has to be treated epigenetically as a function of complex network systems which cut across individuals and which traverse phyletic lineages and orgasmic boundaries."¹⁵³ Relation comes before that which it places in relation.¹⁵⁴ In Heideggerian parlance, it is dwelling that precedes both building and abstract or subjective thought.¹⁵⁵ In contrast to binary logic, one should always proceed from the

between genes and their products, which bring the phenotype into being." The extent to which we are pre-programmed versus environmentally shaped awaits universal consensus. The field of epigenetics has emerged to bridge the gap between nature and nurture.

¹⁵¹ A real-socialist slogan also attributed to Churchill. Ontogeny: development (developmental and organismic scales). Phylogeny: descent and branching (reproductive and evolutionary scales).

¹⁵² Bernard Stiegler, "Who? What? The Invention of the Human," in *Technics and Time, 1: The Fault of Epimetheus* (Stanford, CA: Stanford University Press 1998), p. 177.

¹⁵³ These developments call for a major reconfiguration of ethology. See: Keith Ansell-Pearson, *Germinal Life: the Difference and Repetition of Deleuze* (London: Routledge, 1999), p.171. For Gibson the formula is neither *mentalism* nor conditioned-response *behaviourism*, but *environmentalism*. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 2.

¹⁵⁴ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 350.

¹⁵⁵ See: Martin Heidegger, "Building Dwelling Thinking" in *Poetry, Language, Thought* (New York: Harper and Row, [1951 lecture] 1971), pp. 145-161.

middle or the *milieu*, both conceptually and literally.¹⁵⁶ As explained by the philosopher of science Isabelle Stengers, Deleuze deliberately plays on the double meaning of this French term which stands for the middle and the surrounding.¹⁵⁷ Proceeding from the middle is arguably the best way to undo the habit of thinking in terms of formal essences and sensible formed things. As the philosopher Gilbert Simondon was well aware, the tradition tends to forget a sort of middle, an intermediary. [Table ii] And it is at the level of this intermediary that everything gets done.¹⁵⁸

Aristotle	Kittler	Simondon
<i>duality</i>	<i>meta-theoretical trinity</i>	<i>individuation</i>
FORM (mould)	PROCESSING (P)	≠ moulding; ≠ PTS
/	TRANSMITTING (T)	= CONTINUOUS
MATTER (clay)	STORING (S)	MODULATION

ii **The Relation Between the Condition and the Conditioned**

The complementarity between the animal and its environment was a life-long project of the psychologist James Jerome Gibson, whose contribution to radical empiricism in general is still underappreciated.¹⁵⁹ Our dissertation will explore his unwitting affiliation with Deleuze. The most notable point of convergence between the two thinkers is their more or less overt theory of 'passive synthesis'

¹⁵⁶ This is in contrast to the deconstructivist Jacques Derrida who does not start from the middle but rather "from the limits". The mathematician Arkady Plotnitsky offers a comparative analysis between the two contemporaries Deleuze/Derrida as follows: Middle/Limits, Geometry/Algebra, Thinking/Writing. See: Arkady Plotnitsky, "Algebras, Geometries and Topologies of the Fold: Deleuze, Derrida and Quasi-Matematical Thinking (with Leibniz and Mallarmé" in *Between Deleuze and Derrida*, ed. Paul Patton and John Protevi (New York: Continuum, 2003), pp. 98-119.

¹⁵⁷ The former means without grounding definitions or an ideal horizon, while the latter is meant to indicate that no theory gives you the power to disentangle something from its particular surroundings. See: Isabelle Stengers, "An Ecology of Practices" in *Cosmopolitics* (Minneapolis: University of Minnesota, 2010).

¹⁵⁸ See: Gilbert Simondon, "Genesis of the Individual" in *Incorporations* (New York: Zone Books, 1992), pp. 297-319. See also: *A Short List of Gilbert Simondon's Vocabulary*. <http://fractalontology.wordpress.com/2007/11/28/a-short-list-of-gilbert-simondons-vocabulary/> (accessed May 25, 2011).

¹⁵⁹ His major works are: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986); James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966); James Jerome Gibson, *The Perception of the Visual World* (Boston: Houghton Mifflin, 1950).

with which they vehemently oppose, or better yet complement, the active synthesis of representation.¹⁶⁰ [Table iii] Passive syntheses fall outside of the jurisdiction of an ego whereby a living present is a multiplicity of 'contemplations'.¹⁶¹ Deleuze describes passive synthesis as one which "is not carried out by the mind, but occurs in the mind."¹⁶²

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Passive Syntheses	Active Synthesis
METABOLISM PERCEPTUAL	THOUGHT
<i>organic/matter sensation</i> <i>habit of life</i>	<i>memory as recollection</i> <i>thought as representation</i>
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iii

Passive vs. Active Syntheses: *Every organism, in its receptive and perceptual elements, but also in its viscera, is a sum of sum of contractions, of retentions and expectations.*¹⁶³ (G. Deleuze, 1968)

As a discipline architecture has more often than not sought legitimacy from without. The irony is that it felt embarrassingly inadequate because of its heuristic, that is, anexact (yet rigorous) *modus operandi*.¹⁶⁴ As we will try to demonstrate, the two thinkers stress distinctness and obscurity in opposition to scientism based on Cartesian distinctness and clarity. No less than a genuine

¹⁶⁰ Beneath active syntheses of thought there are passive syntheses of perception and beneath them still there are passive organic syntheses of metabolism. See: John Protevi, "Deleuze, Jonas, and Thompson: Toward a new Transcendental Aesthetic and a New Question of Panpsychism" (Montreal: SPEP, 2010). <http://protevi.com/john/research.html> (accessed May 25, 2011).

¹⁶¹ As used by Franz Brentano and then Husserl, 'intentionality' means that mental states like perceiving are always *about* something, that is, directed towards something. By contrast, for Deleuze intentionality does exist but it is always multiple. In other words, there is never a single originator of the intention. Desire itself is a multiplicity of competing drives. See: Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008).

¹⁶² See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 71.

¹⁶³ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 73.

¹⁶⁴ J.J. Gibson draws on the Polanyi's notion of "tacit knowledge". See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 22. "Everything [...] has long been known implicitly by practical men – the surveyors of the earth, the builders, and the designers of the environment. It is *tacit* knowledge." Cf. Michael Polanyi, *The Tacit Dimension* (Garden City, N.Y.: Doubleday, 1966).

change of heart - triggered by the realist/materialist impetus - is required for the architecture of conjecture to (continue to) resist becoming the architecture of canons. The modernist divide between materiality on the one hand and design on the other is vanishing, according to the sociologist Bruno Latour: "The more objects are turned into things - that is, the more matters of fact are turned into matters of concern - the more they are rendered into objects of design through and through."¹⁶⁵ This is to say that one can no longer indulge in the idea that there are, on the one hand, objective material constraints and, on the other, symbolic human subjective values. As the philosopher Henk Oosterling puts it, *Dasein ist design*.¹⁶⁶ When a society modulates its matter it is not a reflection of culture, it *is* culture.¹⁶⁷ Therefore, the discipline should regain self-confidence and do what it does best, in the words of the architectural theorist Mark Wigley:

Architecture neither houses nor represents culture, neither precedes nor follows culture. Rather it is the mechanism of culture.¹⁶⁸

However, what distinguishes architecture from simple handicraft and makes it a 'material practice', according to Stan Allen, is the interplay between abstract tools and concrete ends.¹⁶⁹ It requires both the intellectual and practical tools to work effectively in this paradoxical environment, "at once immersed in the world of images and abstract notations, yet intimately connected to the hard logics of matter and forces."¹⁷⁰

1.2 Structure of Thesis

¹⁶⁵ Bruno Latour, "A Cautious Prometheus? A few Steps Toward a Philosophy of design (with Special Attention to Peter Sloterdijk)", Keynote lecture for the *Networks of Design* meeting of the Design History Society (Falmouth, Cornwall, September 3, 2008), p. 2.

¹⁶⁶ Henk Oosterling, "Dasein as Design; Or: Must Design Save the World?" *Premsele.org* lecture (2009), <http://finzhao.wordpress.com/2010/09/22/what-is-relational-design/> (accessed May 25, 2011).

¹⁶⁷ 'From representation to things' is the core thesis of Scott Lash and Celia Lury, *Global Culture Industry: The Mediation of Things* (Malden, MA: Polity, 2007), pp. 7, 19. "For Horkheimer and Adorno, culture [...] was still in the superstructure. [...] our concern was with how things actually move, how they 'transition' between many states, how they are (self-)organised as temporal, rhythmic morphologies or coherent behaviours."

¹⁶⁸ Mark Wigley and Jeffrey Kipnis, "The Architectural Displacement of Philosophy" in *Form, Being, Absence* (Pratt Journal of Architecture, 1988), p. 7.

¹⁶⁹ Stan Allen, "Pragmatism in Practice" (manuscript from *Pragmatist Imagination* Conference, Museum of Modern Art, New York, November 1999).

¹⁷⁰ Stan Allen, Commentary in response to "Stocktaking 2004: Nine Questions About the Present and Future of Design" in *Harvard Design Magazine* (No. 20, Spring/Summer 2004), p.44.

1.2.1 Second Chapter

011 **Linear Fallacy** The second chapter entitled **Fallacy of Misplaced Concreteness**, after a term originally coined by Alfred North Whitehead, reveals the inadequacy of *linear* thinking which includes closure, determinism, reversibility, operation at equilibrium and independence of parts.¹⁷¹ It is in this sense that Paul Valéry's caution is most acute: "Two dangers continually threaten the world: [imposed] order and disorder."¹⁷² The "lie of the ideal," as Nietzsche wrote, becomes "the curse on reality."¹⁷³ The world is open, indeterminate, irreversible, far from equilibrium and emergent.¹⁷⁴ Many can never be explained or subsumed by One. Nor can the Whole be reduced to its Parts, nor Collective to Individual, let alone Reality to Representation or Experience to Consciousness as in phenomenology. This is the watershed of Deleuzian (process) philosophy whereby the *abstract never explains anything*.¹⁷⁵ Quite the contrary, it itself begs an explanation. Theories, in general (sic), are always already laden with tacit presuppositions. Deleuze and Guattari pejoratively refer to them as "images of thought."¹⁷⁶

¹⁷¹ Alfred North Whitehead, *Process and Reality: an Essay in Cosmology*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free, 1978), pp. 7-8. In the philosophy of Alfred North Whitehead, the fallacy of misplaced concreteness is committed when an abstract belief, opinion, or concept about the way things are, is mistaken for a physical or 'concrete' reality. For an overview of the fallacies of linear thinking see: Mark C. Taylor, "Coevolutionary Disequilibrium (The Efficient Market Hypothesis)" in *The State of Architecture at the Beginning of the 21st Century*, ed. Bernard Tschumi and Irene Cheng (Montacelli Press, 2003), pp. 80-81. That anyone should find the recent economic downturn surprising can only be a consequence of precisely this sort of linear thinking.

¹⁷² Robert Cooper, "Organization/disorganization" in *The Theory and Philosophy of Organizations: Critical Issues and New Perspectives*, ed. John Hassard and Denis Pym, (London: Routledge, 1990), p. 167. See also: Brian Goodwin, "Reclaiming a Life of Quality" in *Journal of Consciousness Studies* 6 (11 - 12, 1999), p 232. "What came as something of a surprise was that this variability [in the interval between successive heartbeats] is significantly greater in healthy individuals than in people with various types of heart condition [...]"

¹⁷³ Friedrich Nietzsche, *Ecce Homo* (New York: Vintage, 1989), p. 218.

¹⁷⁴ See: Steven Johnson, *Emergence: the Connected Lives of Ants, Brains, Cities, and Software* (New York: Scribner, 2001)

¹⁷⁵ The principle of process (dynamism and kinesis) dethrones the principle of substance (classical ontology). The Deleuzian universals are: 1) contemplation (eidetic), 2) reflection (critical) and 3) communication (phenomenological). See: Gilles Deleuze and Claire Parnet, "Preface to the English Edition" in *Dialogues* (New York: Columbia UP, [1977] 1987). "[T]he abstract does not explain, but must itself be explained; and the aim is not to rediscover the eternal or the universal, but to find the conditions under which something new is produced (*creativity*)."

¹⁷⁶ An 'image of thought' characterises a set of tendencies in philosophical descriptions of thinking which causes philosophers to describe thought in relation to certain presuppositions (e.g. reduction).

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Classicism creation (<i>ex nihilo</i>) <i>disjunctive couple</i>	Phenomenology founding (Kant) <i>conjunctive couple</i>	New Materialism difference/ <i>ritornello</i> <i>reciprocal determination</i>
ESSENCE vs. APPEARANCE	CONDITIONS of apparition (sense) vs. APPARITION	VIRTUAL vs. ACTUAL
symptomatology	phenomenalisation	expressionism
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iv

Deleuzian (Simple) Schema: *There is phenomenology from the moment that the phenomenon is no longer defined as appearance but as apparition. The difference is enormous because when I say the word apparition I am no longer saying appearance at all, I am no longer at all opposing it to essence. The apparition is what appears in so far as it appears. Full stop. I don't ask myself if there is something behind, I don't ask myself if it is false or not false. The apparition is not at all captured in the oppositional couple, in the binary distinction where we find appearance, distinct from essence. [...] Phenomenology claims to be a rigorous science of the apparition as such, which is to say asks itself the question: what can we say about the fact of appearing? It's the opposite of a discipline of appearances. What does an apparition refer to? The appearance is something that refers to essence in a relation of disjunction, in a disjunctive relation, which is to say either it's appearance or it's essence. The apparition is very different, it's something that refers to the conditions of what appears [sense]. The conceptual landscape has literally changed completely.*¹⁷⁷ (G. Deleuze, 1978)

Among the most resilient of such images of thought is the one that Karl Popper called the *Bucket Theory of Mind*.¹⁷⁸ The term is self-explanatory. But there are others that equally thrive on the 'two worlds myth', such as classical essentialism in either Platonic (eidetic) or Aristotelian (taxonomic) guise. Again, essences themselves are nothing but reified generalities. Deleuze believed that the former can be fixed by "turning it upside down" whereas the latter was simply doomed as the ultimate case of identity fixation.¹⁷⁹ 'Platonism in reverse' propagates not

¹⁷⁷ See: Gilles Deleuze, *Cours Vincennes*; "Kant, Synthesis and Time" (March 14, 1978), <http://www.webdeleuze.com/php/texte.php?cle=66&groupe=Kant&langue=2> (accessed May 25, 2011). [emphasis added]

¹⁷⁸ Karl Popper, "The Bucket and the Searchlight; Two Theories of Knowledge" (1948) in *The Philosophy of Ecology; From Science to Synthesis*, ed. David R. Keller and Frank B. Golley (Athens, Georgia: The University of Georgia Press, 2000), pp. 141-146.

¹⁷⁹ The real adversary of Deleuze is *the* philosopher of representation - a peculiar biologist with no theory of becoming - Aristotle. In contrast, Platonism requires a reversal, not an abolishment. The same status is enjoyed by his declared enemy Kant, whose

the reversal of being and becoming as commonly assumed, but the reversal of 'true' and 'false' copies. It thus rejects the inferior status of simulacra by turning them into copies with no original (mould). Whenever we say that one thing resembles another, we imply that the latter is somehow ontologically superior to the former. For Plato, simulacra return as secondary beings in relation to the eternal ideal. To reverse Platonism means to abolish "the world of (more real) essences *and* the world of (less real) appearances."¹⁸⁰ To put it bluntly, there is no original. There has never been any. Nature does not proceed by way of moulds, least of all because of the incommensurability between the Content and Container. The critique extends to architectural typologies which, for some, continue to enjoy a privileged status. As for the Romantic epistemological fixation (quintessential philosophy of access) of the Critical Turn, the Speculative Realists have argued how the Kantian-proclaimed Copernican Revolution could indeed turn out to be its exact opposite - a Ptolemaic Counter-Revolution.¹⁸¹ Gilles Deleuze considered Immanuel Kant to be the true founder of Phenomenology. [Table iv] For Kant, the *phenomenon* was no longer defined as (sensible) *appearance* of its (intelligible) essence, but rather as (spatio-temporal) *apparition*. In contrast to the Classical thought (which was readily embraced by Christianity for the obvious reason of transcendence), Phenomenology substituted the *disjunctive* couple of appearance/essence with the *conjunctive* couple of apparition/conditions of apparition (sense).¹⁸² The problem of *creation*, Deleuze argued, was thus superseded by the problem of *foundation*. 'Bad' essentialism gave way to the equally barren (eventually poststructuralist) search for the conditions of the conditions of the conditions...

- 012 **Meso-Scale** Our task is thus twofold and for that reason all the more difficult. We have to break the *correlationist* circle between thinking and being for its anthropocentric bias and at the same time - albeit for an apparently opposite reason - join Guattari in his call for the fall of the *Ontological Iron Curtain*

transcendental idealism becomes the springboard for Deleuze's transcendental empiricism.

¹⁸⁰ See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 253.

¹⁸¹ 'Critique' in its Kantian sense of ascertaining the limits of a discourse. For Kant theoretical knowledge is knowledge of the given and thus *critical* theory is an account of how the world can be given to a thinking subject.

¹⁸² Gilles Deleuze, *Nietzsche and Philosophy* (New York: Columbia University Press, [1962] 2006), p. 3. See also: Gilles Deleuze, *Cours Vincennes*; "Kant, Synthesis and Time" (March 14, 1978), <http://www.webdeleuze.com/php/texte.php?cle=66&groupe=Kant&langue=2> (accessed May 25, 2011).

erected between mind and matter.¹⁸³ The way out of the apparent impasse is to separate ontology (ultimate nature of reality) from epistemology (the scope of human knowledge). *Epistemological limitations ought not to be transposed into the ontological fault*. It is because of the (false) epistemological assumption that reductionists argue for intelligence as formal rule-following. The 'reductionist' label applies to *all* its guises from ancient atomistic to contemporary quantum, information, DNA, including the most recent - neural.¹⁸⁴ The ontological assumption - that reality consists entirely of a set of mutually independent indivisible facts - leads the reductionists to argue how human knowledge consists entirely of internal representations of reality. It is paramount that we acknowledge (the nesting of) multiple scales of reality in general - all on an equal ontological footing - to zoom in on the *mesoscale* of the ecological level in particular.¹⁸⁵ In the 'flat ontology' of Deleuze, consistent with the thesis of *univocity*, being is said of all things in the same sense, but as one commentator puts it, "all things exist equally, but not all things equally exist."¹⁸⁶ In other words, it is at *parastrata* where organisms and their environments interlock that architecture can make an (ethological) difference.¹⁸⁷ The choice is dictated by the power of action. This is the Bergsonian point of convergence between mind and matter, time and space: "Perception is master of space in the exact measure in which action is master of time."¹⁸⁸ Pitching the adequate level or finding an appropriate 'grain' of analysis is to affirm not the relativity of truth but the truth of relativity. A special agility (of mind) is needed as we find ourselves on the continuously varying but *meta-stable* ground of ecology where things are not logically necessary but contingently obligatory. Metastability, according to the

¹⁸³ Pierre Levy's expression as appropriated by Félix Guattari, *Chaosmosis: An Ethico-aesthetic Paradigm* (Bloomington: Indiana University Press, [1992] 1995), p. 108.

¹⁸⁴ As he watched the majority of psychologists turn from studying rats to studying computers, Gibson criticised the simple-minded substitution of modern technology for traditional approaches, which hampered scientific understanding of how we, human beings, situate ourselves in the environment. See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 1.

¹⁸⁵ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 4. "The world can be described at different levels, and one can choose which level to begin with."

¹⁸⁶ Levi Bryant, "Flat Ontology", *Larval Subjects Blog*, <http://larvalsubjects.wordpress.com/2010/02/24/flat-ontology-2/> (accessed May 25, 2011).

¹⁸⁷ See: Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 167. "Organisms may also have the capacity to actively shape their environment, as spider webs or beaver dams illustrate. These capacities are what Deleuze calls 'parastrata'; the capacity to connect with an annexed or associated milieu." Cf. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 51.

¹⁸⁸ Henri Bergson, *Matter and Memory* (New York: Dover Publications, [1896] 2004), p. 23.

scientist Scott Kelso, is best described as the simultaneous realisation of two competing tendencies: the tendency of the components to couple together and to express their intrinsic independent behaviour.¹⁸⁹

013 **Pragmatism** Despite the apparent quirkiness of such conditions, the point of fact is that we continue to navigate the world, namely, act and perceive more or less effortlessly. This is because we were never modern, we only thought so (no pun intended).¹⁹⁰ By modern we mean the doctrine that neatly separates *res cogitans* from *res extensa* whose space is isotropic and, as such, drained of all movement. In contrast, the enactive, embodied, embedded, extended and affective approach (4EA) to cognition treats all forms of stasis as limits, as special cases of flow.¹⁹¹ According to Gibson, a *form* is nothing but a continuous non-transformation, just as non-motion is a special case of motion. Consequently, the perception of space is incomprehensible unless we tackle it as the problem of space-time.¹⁹² Pace Sigfried Giedion, time is not simply one dimension among others.¹⁹³ It is *the* dimension out of which all other dimensions unfold. This is not mere sophistry or "change of perspective," as if there was symmetry between movement and stasis.¹⁹⁴ The exteriority of relations fostered by the 4EA is perhaps best understood in contrast to the exact opposite, namely, the relations of interiority germane to Platonism, Cartesianism, Individualism, Representationalism and Computation(alism). Perhaps a conciliatory gesture would be to at least recognise the demarcation between the nonrepresentational sensorimotor cognition we

¹⁸⁹ Metastability, as opposed to a single optimum. A term from the dynamic systems theory (DST). See: Scott Kelso, *Dynamic Patterns: the Self-organization of Brain and Behavior* (Cambridge, MA: MIT, 1995).

¹⁹⁰ Latour claims that the modern radical separation of subject and object is a useful myth. He objects to the radically 'physical' nature of the object and proposes instead that we inhabit a world of quasi-subjects and quasi-objects. Hence Latour's objects are not strictly physical but already partly metaphysical. For him, subjects and objects always were quasi-subjects and quasi-objects and so there never was in fact a radical subject-object separation. Hence, we have been never modern. To never have been modern is at the same time always to have been metaphysical. Thus for Latour to say that we must dare to be metaphysical is for him to say that we must dare to be as we always have been. See: Bruno Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard UP, 1993).

¹⁹¹ For more information on the approach see John Protevi's 4EA blog. http://proteviblog.typepad.com/4ea_cognition/ (accessed May 25, 2011).

¹⁹² See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (L. Erlbaum, 1982), p. 175.

¹⁹³ The godfather of modernist architecture Sigfried Giedion proclaimed time as a fourth dimension. See: Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, MA: Harvard UP, 1947).

¹⁹⁴ Such symmetry is often wrongly presupposed by the Science and Technology Studies (STS). Relation comes first, individual next, and not a network.

share with animals, and the representational symbolic cognition seemingly unique to humans. The pragmatist does not have a theory of truth, explains Richard Rorty: "[W]e should drop the traditional distinction between knowledge and opinion, construed as the distinction between truth as correspondence to reality and truth as a commendatory term for well-justified beliefs."¹⁹⁵ The 'bastard' pragmatic logic lies between the transcendental and the empirical. It goes beyond the relation between the whole and its parts; it is reducible to neither. What this implies is that many of our past concerns turn out to be pseudo-dilemmas. Consider Gibson debunking the 'puzzle' of a tabletop whose trapezoidal appearance is irreconcilable with its orthogonal 'essence'. The 'constancy of shape' poses a problem only if we assume that form-perception is an intellectual synthesis of discrete sensory inputs, also known as the '3D/2D/3D problem'.¹⁹⁶ But as Gibson knew, "Discrete percepts, like discrete ideas, are 'as mythical as the Jack of Spades'."¹⁹⁷ The perceptual may be confounded with the conceptual only if the former is regarded as a species of the latter. This is to say that coherence is not logical, but eco-logical.¹⁹⁸ What then is a (true) table? A solid mass of wood or an aggregate of discrete entities moving in the void? The architect's answer to the question should presumably be that the table is indeed both, but above all, it is an 'elevated ground'. Or, as Sara Ahmed recently put it, "The sameness of the table is hence spectral."¹⁹⁹ Gibson explains the conundrum as follows:

Ever since Descartes, psychology has been held back by the doctrine that what we have to perceive is the 'physical' world that is discovered by physics. I am suggesting that what we have to perceive and cope with is the world considered as the environment.²⁰⁰

¹⁹⁵ Cary Wolfe, *Critical Environments: Postmodern Theory and the Pragmatic of the "Outside"* (Minneapolis: University of Minnesota Press, 1998), p. xiii.

¹⁹⁶ Robert L. Solso, *Cognition and the Visual Arts* (Cambridge, MA: MIT, 1994), p. 158. "[...] a three-dimensional world is recorded by a two-dimensional eye [sic] and then interpreted as three dimensions by the brain [sic]."

¹⁹⁷ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p.240.

¹⁹⁸ Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* (Cambridge, MA: MIT, 2009), p.108.

¹⁹⁹ Sara Ahmed, "Orientations Matter" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), pp. 234-257. "If idealism takes the object as given, then it fails to account for its conditions of arrival, which are not simply given. Idealism is the philosophical counterpart to what Marx would later describe as commodity fetishism."

²⁰⁰ Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale University Press, 1988), p. 279.

Not all architects succumb to the physicist's conception of the world. An illuminating example is Reyner Banham's analysis of Los Angeles. In Banham's view, the metropolis threatens the intellectual response and professional livelihood of many architects, artists, planners, and environmentalists because it breaks the rules of urban design that they promulgate and teach. The case of Los Angeles proves that there is no simple correlation between urban and social form. In order to avoid the mechanistic fallacy of a necessary causal connection between built form and (human) life, Banham proposed to consider the city's 'ecologies' instead. He consequently mapped four such meta-stable assemblages: Suburbia, Foothills, The Plains of Id and Autopia. There were arguably as many logics as there were types of engagement. In the case of 'Autopia', Banham took the only (ethical) decision possible: "[...] like earlier generations of English intellectuals who taught themselves Italian in order to read Dante in the original, I learned to drive in order to read Los Angeles in the original."²⁰¹

1.2.2 Third Chapter

014 **Non Linear Thinking** The third chapter entitled **N Minus One (N-1)** presents the core of the thesis, namely, the concept of *reciprocal determination* between One and Many or Virtual and Actual. This is arguably the most important legacy of incorporeal materialism.²⁰² Not only does it break with the dichotomies of Subject vs. Object, Nature vs. Culture, Perceiving vs. Acting, and suchlike, but it introduces a set of new conceptual tools (topological, intensive and populational) to address both the continuous engendering and the discrete engendered, as well as their continual exchange.²⁰³ In his syncretic approach, the media theorist Roy Ascott argues that we have been stuck with *E pluribus unum* for too long.²⁰⁴ *Out*

²⁰¹ Reyner Banham, *Los Angeles; The Architecture of Four Ecologies* (London: Allen Lane, 1971), p. 5. For a more recent example of such an approach see the Ballardian documentary on London's M25: *London Orbital* (2002) by Christopher Petit and Ian Sinclair.

²⁰² Deleuze's terms for incorporeal materialism are 'superior empiricism' or 'transcendental empiricism'.

²⁰³ The style of reasoning that brought together evolutionary and (developmental) genetic theories (Evo-Devo), far-from-equilibrium thermodynamics and non-linear mathematics. See: Manuel DeLanda, "Deleuze and the Use of Genetic Algorithms in Architecture" in *Architectural Design: Contemporary Techniques in Architecture*, ed. Ali Rahim, (Academy Press, 2002), pp. 9-13.

²⁰⁴ According to the media theorist Roy Ascott, "During the 20th century there was much ado about *e pluribus unum*, out of many, one: a unified culture, unified self, unified thought, unity of time and space. Now at the start of the 3rd millennium, it could be the reverse." He advocates the syncretic approach of bringing together disparate entities - material and non-material - and their philosophical, religious, and cultural customs and codes. Roy

of many, one is a good enough definition of typological thinking whereby the essential One stands against Many imperfect sensuous incarnations (of the ideal type). Think of the Vitruvian man or the Corbusean modulator, both of these avatars being not only Caucasian but also young, fit and male [sic]. Population thinking (legacy of evolutionism) proposes the reverse, namely, that variation is regarded as real and type as mere fiction (statistical mean/average). For example, a *girl* cannot be defined as a young *woman* who is in turn defined as the opposite of *man*. Each of the three is unique in his/her own right and cannot be measured against a benchmark (race, age, gender). The same critique applies to David Harvey's structuralist 'general matrix of spatialities,' where his rows of absolute, relative and relational spaces are measured against the columns of perceived, conceived and lived spaces.²⁰⁵ Moving from one 'category' to another is mere displacement rather than genuine movement. What is really in motion is the matrix which carries no pretence of positivity because it has no affect outside of its permutational iterations. The emphasis on the 'not' and the shortcomings of the diacritical approach were recently criticised by Brian Massumi:

If each term is only what it is by virtue of not being the other than taken together they are doubly not. They are reciprocal not-ness. A diacritical access of difference, a pure negative difference. Any potential positivity of the terms in relation is hungrily swallowed by the relation which given its pure negativity isn't one. If this non-relation is construed as generative, so that some version of emergence results, what you get is a *structuralism*. The only way to avoid the whole account disappearing into another abyss – this time of negation – is to multiply the diacritical axes to get a matrix. You can then use the matrix to iterate the not-ness in different permutations. This yields a positivity effect, an illusion of positivity as if by magic.²⁰⁶

The crux of the matter is that structuralism can only generate apparent movement and it does so from a purely logical matrix.²⁰⁷ In other words, it merely generates subjective movement from a *known* set of formal distinctions. It is basically a

Ascott, *Syncretic Strategies* (2007), http://www.eaf.asn.au/2007/symposium_p_ascott.html (accessed May 25, 2011).

²⁰⁵ David Harvey, "Space as a key word" in *Spaces of Global Capitalism: A Theory of Uneven Geographical Development* (London: Verso, 2006), pp. 119-148.

²⁰⁶ Brian Massumi, plenary lecture for the Society of the Humanities entitled "Thought in Motion: The Energetics of Abstraction", *Critical Mobilities: Thought, Culture, and Performance* (April 29, 2010), <http://www.cornell.edu/video/index.cfm?VideoID=771> (accessed May 25, 2011).

²⁰⁷ "Structuralism is a new transcendental philosophy because it thinks a primary plane of symbolic orders [...]" See: Marc Rölli, "A Pragmatism of Difference? Gilles Deleuze's pragmatic move beyond structuralism" in *Deleuze International* (No. 1, 2007), <http://deleuze.tausendplateaus.de/?p=37> (accessed May 25, 2011).

system of formal determination. As such, it can account for the logical conditions of possibility but it cannot reach the real conditions of positively determinate emergence which lie in a pre-subjective, that is, pre-individual reality. According to Deleuze, "This is the dialectical trick by which we discover only what we have already given to ourselves, by which we derive from things only what we have already put there."²⁰⁸ It is therefore paramount that we embrace non-linear thinking which adopts the 'intensive' geometry of topology. In other words, we would be too exact and not rigorous enough if we relied solely on mereology as the theory of parthood relations.²⁰⁹ As Einstein put it:

So far as the theories [...] are about reality, they are not certain; so far as they are certain, they are not about reality.

The question is how to think relation exterior to its terms. This certainly cannot be done based on the so-called 'lived experience' if we want to avoid the 'fallacy of tracing', or conflating the process with the product. This widespread habit of (bad) formalism drove Deleuze to reject the realm of the possible, as it is nothing more than retroactive hypostatisation, and replace it with the reservoir of pure potentiality of the (ideal-yet-real) virtual. The formula is: Neither empirical particulars, nor abstract universals.²¹⁰ The real is not to be subordinated to the possible, the same way that the contingent is not opposed to the necessary.²¹¹

²⁰⁸ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 69.

²⁰⁹ "Anexact yet rigorous" is Deleuze's reference not just to a style of thought, but also to a characteristic of topological manifolds themselves. See, for example, the discussion of Bertrand Russell's concept of 'ordinal distances' in: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 483.

²¹⁰ Félix Guattari, "The new aesthetic paradigm" in *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p. 112. "Here we are dealing with an infinity of virtual entities infinitely rich in possibles, infinitely enrichable through creative processes. It is a force for seizing the creative potentiality at the root of sensible finitude - 'before' it is applied to works, philosophical concepts, scientific functions and mental and social objects - which founds the new aesthetic paradigm. The potentiality of the event-advent of limited speeds at the heart of infinite speeds constitutes the latter as creative intensities."

²¹¹ A case against probabilistic reasoning as a basis for the refusal of the contingency of laws was recently made by Meillassoux: "[...] we begin by giving ourselves a set of possible cases, each one representing a conceivable world having as much chance as the others of being chosen in the end, and conclude from this that it is infinitely improbable that our own universe should constantly be drawn by chance from such a set, unless a hidden necessity presided secretly over the result." See: Quentin Meillassoux, "Potentiality and Virtuality" in *Collapse: Speculative Realism*, ed. Robin Mackay (Vol. II, March 2007).

015 **Logic of Sense** In this chapter we will counter the logic of law (essentialism) with the logic of event: Nothing is; everything becomes. Physical laws, says Peirce, are habits of matter.²¹² In contrast to the tendency of narrowing the spectrum to what is perceptible, a transcendental empiricist's ontological commitment will require that it be broadened by an intensive *spatium* of the imperceptible.²¹³ In a nutshell, the material cause will be tied to the (Stoic) incorporeal effect which will in turn operate as a quasi-cause.²¹⁴ The Stoics show that things themselves are bearers of ideal events which do not exactly coincide with their properties. Any (actual) incarnation may in fact be seen as a (provisional) 'solution' to the problem posed by the virtual the same way that the eye is the solution to the problem of light. This is what makes the virtual not ideal but problematic. Guattari's *Chaosmosis* is quite fitting for this morphogenetic process where everything seems to fold upon itself (*se rabat sur*).²¹⁵ However, this logic must not be reduced to the mannequin opposition between the quantitative Actual and qualitative Virtual.²¹⁶ The difference between the difference in degree and the difference in kind is *not* reducible to either: "Between the two are all the degrees of difference - beneath the two lies the entire nature of difference in other words, the intensive."²¹⁷ And indeed, for Deleuze it is the *intensive* nature of difference which binds the virtual and actual,

²¹² Brian Massumi, "Event Horizon" in *The Art of the Accident*, ed. Joke Brouwer (Rotterdam: V2 Pub./NAi, 1998), pp.154-168.

²¹³ For Deleuze, the transcendental is not a substantive philosophical thesis offering subordination of objectivity to subjectivity, ontology to epistemology, but rather a polymorphic method wherein subjectivity and objectivity are suspended as equivocal, prephilosophical categories. Immanence is "transcendental" because it does not coincide with the forms it expresses, even though it is not fundamentally separate from them (transcendental but not transcendent).

²¹⁴ Deleuze acknowledges the Stoic influence both in his early *The Logic of Sense* (1969) and later in *A Thousand Plateaus* (1980), co-written with Guattari. The concept of quasi-cause (dark precursor) prevents regression into simple reductionism. It designates the pure agency of transcendental causality. The difference in itself relates heterogeneities.

²¹⁵ Guattari borrowed the term from his favourite literary author, James Joyce, who had invented the term 'chaosmos'. See: Félix Guattari, *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995).

²¹⁶ Deleuze is critical of Bergson's critique of quantities. In Bergson's account, all we have is a world of quantity, and we need to get back to intensity. But according to Deleuze, it is not a question of moving from *quantity* back to *quality* because lived qualities (the intensity of heat, light, colour, passion) themselves emerge from relations of quantity. For example, one experiences a particular percept because two quantities - that of light and that of one's body - have entered into relation. However, the qualities that emerge from quantities are *not yet* the quantities of this or that. This is the gist of the notion of *differential calculus* or entering into relation of forces that eventually produces quantities.

²¹⁷ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 239.

the ideal and sensible, and provides the catalyst for individuation. The radical concept of chaosmosis does not lend itself to axioms. Connected by an intensive process, the molecular (flows) and molar (products) are irreducible to one another. For Simondon, escaping the binary opposition is quintessential:

In order to think individuation, it is necessary to consider being neither as substance, nor as matter, nor as form, but as tight, supersaturated system, above the level of unity, inconsistent solely in itself and not adequately thinkable by means of the excluded middle; the concrete and complete being – that is, the preindividual being – is a being that is more than a unity. Unity, characteristic of the individuated being, and identity, which authorises the use of the principle of the excluded middle, do not apply to preindividual being (...); *unity and identity apply only to one of the phases of the being, posterior to the operation of individuation.*²¹⁸ [emphasis added]

Under transcendental empiricism, the formation and form, the emerging and the emerged, pertain to different modes of reality even if they both belong to the same reality. Thus, the 'form of content' and the 'form of expression' cannot have a common form.²¹⁹ There is no meta-form to bridge the gap. There cannot be one, cautions Deleuze, as there is no such thing as molecular semantics any more than there is molar functionalism. Expressionism or actualising the virtual - the virtual which is real without being actual and ideal without being abstract - is therefore inherently asymmetrical.²²⁰ Consequently, the logic of essence must be dismantled in favour of the logic of event, which in turn requires substance to be replaced by (nontotalisable) multiplicity, and possibility by (nontotalisable) virtuality. As Jonathan Culler puts it shrewdly, *meaning is context bound, but context is boundless.*²²¹ [Table v]

²¹⁸ Cited in Paolo Virno, "Angels and the General Intellect; Individuation in Duns Scotus and Gilbert Simondon" in *Parrhesia* (No. 7, 2009), pp. 58-67.

²¹⁹ Deleuze and Guattari mobilize Hjelmslev's linguistics, rereading it in a highly original fashion, to develop a metaphysics of matter undergoing morphogenesis. The relationship between Expression and Content is not one of correspondence, such as we find in the relationship of the signifier and the signified, but of two heterogeneous yet reciprocally presupposing forms of organization. *Expression differs in each instance.*

²²⁰ Deleuze *qua* Spinoza opposes expression to the sign. The sign is always equivocal, that is, it signifies in several senses. In contrast, expression is uniquely and completely univocal: there is only one single sense of expression and that is the sense following which the relations combine. Deleuze considers Worringer to be the first theoretician of expressionism. See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 51. For an excellent account of Deleuze's expressionism see: Brian Massumi, "Like a Thought" introduction in *A Shock to Thought: Expressionism After Deleuze and Guattari* (London: Routledge, 2002), pp. xiii-xxxix.

²²¹ Jonathan Culler, *Literary Theory* (New York: Sterling Publishing, [1997] 2009), p. 92.

general	POSSIBLE	<i>molecular</i> (m)	universal singular
homology	REAL	VIRTUAL	INTENSIVE
particular		ACTUAL	progressive differentiation
		<i>molar</i> (M)	individual singular

v **Logic of Essence vs. Logic of Event:** *Generality as generality of the particular vs. Repetition as universality of the singular.*²²²

016 **De-Fatalisation** For our purposes of going beyond a single optimum, we will pursue the opposite process of counter-effectuation towards the (phase) space of possibilities, or what Manuel DeLanda refers to as the "intuition synthesiser."²²³ This is the true design space (any-space-whatever). As the psychologist Donald Norman readily admits, the designer already knows too much and can no longer assume the role of the beholder.²²⁴ The key is to find ways to discern possibilities that are latent in a given situation but hidden by obvious and typically acknowledged conditions. Deleuze finds the clue as to how counter-effectuation could be enacted in what Samuel Beckett calls 'exhaustion': "One combines the set of variables of a situation, on the condition that one renounces any order of preference, any organization in relation to goal, any signification."²²⁵ In short, the imperative is to "rid ourselves of ourselves" (as designers). Similarly, Sanford Kwinter employs "radical anamnesis" to recall not the (contingent) past that has happened but the past that has not happened but could have.²²⁶ The effort to open up multiple paths of differentiation - Deleuze and Guattari's 'lines of flight' -

²²² See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 1.

²²³ Phase-space, also referred to as state-space is perhaps one of the most powerful inventions of modern science. It is a virtual space which must not be confused with the 'physical space'. It is an abstract, mathematical space whose multiple dimensions correspond to the number of variables, or degrees of freedom, that compose the state of a given dynamical system.

²²⁴ Donald A. Norman, *The Design of Everyday Things* (New York: Doubleday, 1990), p. 154. Norman's appropriation of the theory of affordances is overly mechanistic and reductive. The emphasis is on the "match" between the system and user representations.

²²⁵ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), pp. 152-174.

²²⁶ Sanford Kwinter, *Far From Equilibrium: Essays on Technology and Design Culture* (Barcelona: Actar, 2008). In his 1996 essay entitled "Radical Anamnesis (Mourning the Future)", which is central to the book, Kwinter concludes, "Through (selective) memory the future becomes possible, a future that the past could not think and that the present - alone - dares not."

prevents one from succumbing to the covertly teleological argument of the liberal agenda where all that is required is to fine-tune the status quo.²²⁷ This (Hegelian) fallacy goes by the name of 'End of ... history, art, politics, theory, metaphysics, etc'. What we need instead is a project of 'de-fatalisation'.²²⁸ As the Derridean architect Bernard Tschumi exclaims, "[A]rchitecture seems to survive only when it saves its nature by negating the form that society expects of it."²²⁹ We need to employ non-stereotypical strategies for design that provide a powerful alternative to the *hylomorphic* tradition of imposing form on supposedly inert matter.²³⁰ Non-stereotypical is not the same as random. The key is to tap into the (N-1) a-personal, pre-subjective, extra-propositional and sub-representative reservoir of novelty which is paradoxically always already fully integrated into the (proto)social field. "There is no such thing as individual fantasy."²³¹ The

²²⁷ The prominent advocate of such an approach is Francis Fukuyama, best known as the author of *The End of History and the Last Man*, where he argues that the progression of human history as a struggle between ideologies is largely at an end, with the world settling on liberal democracy after the end of the Cold War and the fall of the Berlin Wall in 1989. Fukuyama predicted the eventual global triumph of political and economic liberalism: "What we may be witnessing is not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such [...] That is, the end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government." See: Francis Fukuyama, *The End of History and the Last Man* (New York: Free, 1992). A kindred approach in the realm of architecture is best exemplified by Michael Speaks. See: Michael Speaks, "After Theory" in *Architectural Record*, June 2005, pp. 72-75.

²²⁸ Ghasan Hage, Inaugural Distinguished Lecture in Anthropology "The open mind and its enemies: Anthropology and the passion of the political", *The Australian Anthropological Society* (December 8, 2009), <http://www.themonthly.com.au/anthropology-and-passion-political-ghassan-hage-2230> (accessed May 25, 2011).

²²⁹ Bernard Tschumi, *Architecture and Disjunction* (Cambridge, MA: MIT Press, 1996), p. 47. See also: Michael K. Hays, "The Autonomy Effect" in *Bernard Tschumi*, ed. Giovanni Damiani (New York, Universe Publishing 2003), p. 7. "[T]he 'meaning' of architectural form exceeds any quantifiable program or set of behaviors as well as technological determinants."

²³⁰ In *A Thousand Plateaus* (1980) Deleuze and Guattari continue Gilbert Simondon's critique of *hylomorphism* and follow him in developing a non-hylomorphic theory of production. In this theory, forms are developed by artisans out of suggested potentials of matter, rather than being dreamed up by architects, and then imposed on passive matter. In artisanal production, the creator must 'surrender' to matter, that is, follow its potentials by attending to its implicit forms, and then devise operations that bring forth those potentials to actualize the desired properties.

²³¹ At the bottom, Deleuze and Guattari claim, libidinal (interior/Freud) and political (social/Marx) economy are one and the same. "The unconscious itself is no more structural than personal, it does not symbolise any more than it imagines or represents; it engineers, it is machinic." See: Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 60, 71. See also Deleuze and Guattari, "Capitalism: A Very Special Delirium" in *Chaosophy*, ed. Sylvère

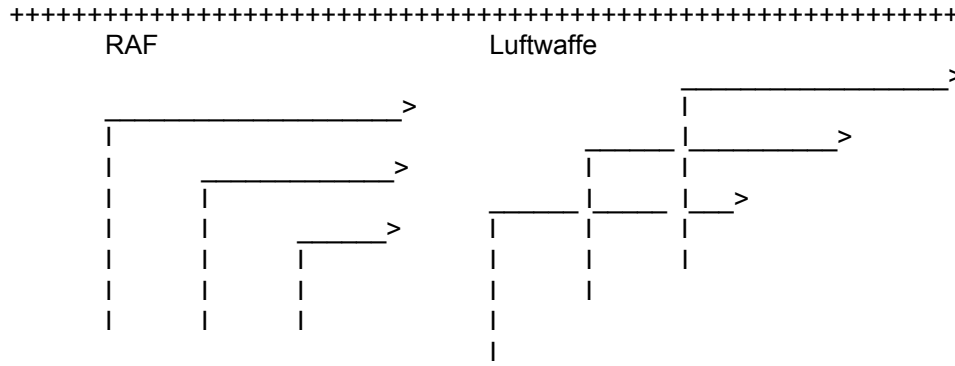
philosopher and neuroscientist Shaun Gallagher suggests that, before we are in a position to theorise, simulate, explain or predict mental states in others, we are *already* in a position to interact with and understand others in terms of their expressions, gestures and purposive movements.²³² The creative pursuit thus calls for the employment of the "N-1" move, which will arguably allow us to go beyond the all-too-anthropocentric strategies of un-forgetting and un-recalling (*anamnesis* and *defamiliarisation*).²³³ A sceptic might rightfully ask how much our design capacities can benefit from this *vice-diction* towards the phase portrait of a dynamic system. Consider, in anticipation of our argument, the following example as an illustration of how lethal our attachment to old conceptual baggage can be. [Table vi] In the early days of World War Two, the German air force was allegedly more successful than the British. It has been claimed that British airborne manoeuvres were more concerned with representational 'choreography' based on symmetry and beauty than with efficiency. They insisted "upon the simple cleanliness of fixed formations, which really had more to do with the colonial aesthetics of pure geometries than the real business of air combat." Their German counterparts, on the other hand, were busy exploring the (phase) space to its full potential: "[T]heir fighter formations were far more adaptive to change, thus more capable of absorbing, deflecting, or evading enemy tactics." What is at stake is an emergent property of a dynamic system where the whole exceeds the sum of its parts.²³⁴ This, according to Jesse Reiser and Jason Payne, is in a way a purely geometrical problem.²³⁵

Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995). "[W]hat matters is not ideology, not even the 'economic-ideological' distinction or opposition, but the *organisation of power*. Because organization of power - that is, the manner in which desire is already in the economic, in which libido invests the economic - haunts the economic and nourishes political forms of repression."

²³² Shaun Gallagher, "Direct perception in the intersubjective context" in *Consciousness and Cognition* (No. 17, 2008), pp. 535-543.

²³³ "The formula for multiplicities is N-1, i.e. the ONE is what must always be subtracted [...] the formula is N-1; suppress the unity, suppress the universal." See: "U as in *Un* (One)" in *Gilles Deleuze's ABC Primer, with Claire Parnet* (Directed by Pierre-André Boutang, 1996). Overview prepared by Charles J. Stivale, Romance Languages & Literatures, Wayne State University, <http://www.langlab.wayne.edu/Cstivale/D-G/ABC1.html> (accessed May 25, 2011).

²³⁴ Emergence, complex systems and topologies have become matters of interest for architectural discourse, philosophy and mathematical science alike. There is an inevitability of emergent behaviour of any dynamic system given the following three conditions: multiple parts, extensive communication between the parts and substantial mobility in the parts. This can be observed in some flocks of birds whose behaviour is a profound illustration of the dynamic of disequilibrium producing an emergent effect. There are four distinguishable phases in the process. In daytime birds hunt individually. As the night sets in they start to organise, first into small groups behaving rather like smoke and



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Striated vs. Smooth Space: *The right turn manoeuvre by respective air force formations* (J. Reiser and J. Payne, 1998)

The diagram of the manoeuvres made by these formations is a perfect illustration of the difference between sedentary and nomadic distributions in the organisation of space, that is, between applying a pre-set overarching principle in the case of RAF, and tapping into the latent potentiality of an *ad-hoc* assemblage on the part of Luftwaffe.²³⁶ This qualifies as a quintessentially architectural problem, not to be confused with the simple opposition of order and disorder. They are two different, perhaps even complementary, orders of what Deleuze and Guattari call

these eventually grow larger and larger. It is possible to distinguish between individual, loose aggregate, thermodynamic aggregate and finally a complex system where birds start to calculate their environment on a very high level. Every flow into the environment starts to become a calculation emergence of the complex system.

²³⁵ Jesse Reiser and Jason Payne, "Chum: Computation in a Supersaturated Milieu" in *Kenchiku Bunka* Vol. 53 No. 619 (Tokyo: Shokokusha Publishing, 1998). "When the British formation changed direction, for example, every plane would retain its fixed position within the assemblage throughout the turn, somewhat like rail-cars on a curving train track. The German formation, however, would rotate and fold over upon itself, the planes in the rear of the formation coming around to take up the front. Not only did this allow for a faster, tighter turn, but it also provided continual and ever-changing protection for each plane by some other in the formation. The shifting positions made it very difficult for an enemy to draw a bead on a single plane, especially one being defended by several others in rotation."

²³⁶ According to Deleuze and Guattari, with nomadic distribution there is not a single law which stands outside and determines space. Instead, the law is produced in the traversal of space. In contrast to sedentary space which remains what it is and is then divided, nomadic space is produced through its very distribution. The concept of 'nomadology', is spelled out explicitly in *A Thousand Plateaus* (1980).

the striated and smooth space (reterritorialisation and deterritorialisation).²³⁷ Despite the all-too-hastily declared dislike of the non-Non-Euclidian geometries, contemporary architecture has not yet taken the turn away from the arborescent (hierarchical) model towards the positively motivated mapping of singularities that populate the virtuality of the haptic (rhizomatic) counterpart. The cart of semantic signification thus precedes the horse of pragmatic significance and will continue to do so until the discipline has fully absorbed the conceptual power of the smooth space (N-1). For a genuine change to occur, the relation between space and movement ought to be inverted. Carl Friedrich Gauss' achievement of challenging the necessity to add an extra dimension in order to study space (Cartesian cage: N+1), and proposing that it be 'localised' instead, becomes indispensable. This chapter outlines the formal apparatus needed to attack the Newtonian absolute space in favour of the Leibnizian relational space, namely, the differential calculus of Newton/Leibniz, the topology of Gauss and Riemann, and Poincaré's marriage between mathematics and physics.²³⁸

1.2.3 Fourth Chapter

017 **Spatium** The fourth chapter, **Affect Attunement**, makes a case for a pedagogy of the senses.²³⁹ In terms of our (architecture) thinking everything begins from the sensible, but the task of thinking is to go beyond the sensible to the potentials that make sensibility possible. This argument is pertinent given that the task of architecture, as we see it, is to *distribute the sensible* (and insensible). This means

²³⁷ The dual nature of space is explained by Sanford Kwinter in, "La Città Nuova: Modernity and Continuity" in *Architecture Theory Since 1968*, ed. Michael K. Hays (Cambridge, Mass: MIT, 1998), p. 593. "Boccioni's system reveals a certain dual nature of space: on the one hand, a fixed and extended milieu with metrical or dimensional properties and, on the other, a fluid and consistent field of intensities (e.g. forces, speeds, temperatures, colour). The resemblance to Bergson's two types of multiplicity, the numerical (discrete) and the qualitative (continuous) or, more generally, that of space and that of *durée*, deserves to be underscored here once again. The basic difference, of course, between Bergson's second, dynamic multiplicity as formulated in the *Essai*, and Boccioni's is that for the latter there is no separate or privileged internal domain. Specifically, it is the very problematization of this separation that is the point of departure for Boccioni's work. What remains to both regardless of this difference is the task of giving systematic expression to the world in the modern terms of a *continuous multiplicity*."

²³⁸ In this we rely heavily upon Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002).

²³⁹ A term coined by psychoanalyst Daniel Stern, one of the great specialists in child development. See: Daniel N. Stern, *The Interpersonal World of the Infant: a view from psychoanalysis and developmental psychology* (New York: H. Karnac, 1985), p. 142. "Affect attunement expresses the quality of feeling of a shared affect state without imitating the exact behavioral expression of the inner state."

that architects work with the sensation as the material.²⁴⁰ They design affordances and not forms. In our view, the basic medium of the discipline of architecture is a 'field of experience', rather than geometry, design, critique, or any formalisable field.²⁴¹ [Table vii]

++++
Conditions of sensations = Conditions of the production of the affect
Conditions of the production of the affect = Medium of architecture
++++

vii

Distribution of the Sensible: *Aesthetics is central to politics as the social and political systems are founded on the distribution of the sensible (aesthetic regimes): forms of visibility, ways of doing and making and ways of conceptualising.*²⁴² (J. Rancière, 2006)

The field, however, does not pre-exist but is always present as a virtuality. According to Deleuze, the plane of composition - as a work of sensation - is aesthetic: "it is the material that passes into the sensation."²⁴³ Once aesthetics is

²⁴⁰ The wording is borrowed from the subtitle of a book by Jacques Rancière, *The Politics of Aesthetics: the Distribution of the Sensible* (London: Continuum, 2006). The concept of 'sensation as the material' has been developed in Deleuze, *Francis Bacon: the Logic of Sensation* (London: Continuum, [1981] 2005). "There are two ways of going beyond figuration (that is beyond both the illustrative and figurative): either toward abstract form or toward the Figure. Cézanne gave a simple name to this way of the figure: sensation. The Figure is the sensible form related to sensation: it acts immediately upon the nervous system, which is of the flesh, whereas abstract form is addressed to the head, and acts through the intermediary of the brain, which is closer to the bone."

²⁴¹ Brian Massumi put forward the 'field of experience' thesis in his "The Diagram as Technique of Existence" in *Diagram Work*, ed. Ben van Berkel and Caroline Bos (special issue of *ANY* No. 23, 1998), pp. 42-47.

²⁴² Jacques Rancière, *The Politics of Aesthetics: the Distribution of the Sensible* (London: Continuum, 2006). We agree with Katharine Wolfe's assertion that - despite Rancière's denunciation of Deleuze's philosophy in general and his theory of 'imperceptibility' in particular - he is much closer to Deleuze than generally thought. See: Katharine Wolfe, "From Aesthetics to Politics: Rancière, Kant and Deleuze" in *Contemporary Aesthetics* (April 2006). See also: Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham and London: Duke UP, 2010), p. 106. "When asked in public whether he thought that an animal or a plant or a drug or a (nonlinguistic) sound could disrupt the police order, Rancière said no: he did not want to extend the concept of the political that far; nonhumans do not qualify as participants in a demos; the disruption effect must be accompanied by the desire to engage in reasoned discourse. [...] Despite this reply, I think that even against his will, so to speak, Rancière's model contains inklings of and opportunities for a more (vital) materialist theory of democracy."

²⁴³ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), pp. 192-193. The relationship "between technical and aesthetic planes of composition constantly varies historically. [...] no art and no sensation have ever been representational."

drawn into the context of production and creation its field vastly expands. It becomes a dimension of being itself, and both subjects and objects come to be seen as creations. Gibson argues that we perceive the world in which we live and infer the world of the scientist, not the other way around. This is not to dismiss formalisations as either unnecessary or redundant.²⁴⁴ Rather, they are insufficient for laying out a single non-linguistic plane of immanence that fully integrates both subjects and objects. The tie between the environment and the organism is 'twofold': It is ontological and epistemological, as it were. The environment provides conditions for perception and is that which is perceived. It is not for nothing that experience/consciousness has been referred to as the 'hard problem'.²⁴⁵ This has been proven, time and again, by failed attempts at reversed engineering (of perception), despite virtually unlimited resources provided by the military (with a vested interest).²⁴⁶ The study of perception clearly needs a change of angle from the symbolic to enactive (connectionist) approach of the sort that we find in the tradition of the empiricist David Hume.²⁴⁷ Deleuze, a keen

²⁴⁴ The prominent anthropologist and cybernetic Gregory Bateson pinpointed the problem as follows: "Thirty years ago we used to ask: Can a computer simulate *all* the processes of logic? The answer was yes. But the question was surely wrong. We should have asked: Can logic simulate all sequences of cause and effect? And the answer would have been no!". See: Gregory Bateson, *Mind and Nature: A Necessary Unity* (New York: E.P. Dutton, 1979), p. 58

²⁴⁵ Philosopher David Chalmers has formulated the notion of a 'hard problem' of consciousness in both his book and in the paper "Facing Up to the Problem of Consciousness" (originally published in *The Journal of Consciousness Studies*, 1995). He makes a distinction between "easy" problems of consciousness, such as explaining object discrimination or verbal reports, and a single hard problem, which could be illustrated by the following question: "Why does the *feeling* which accompanies awareness of sensory information exist at all?"

²⁴⁶ To cope with the bewildering complexity of the real world, scientists often ignore what they consider to be less relevant details. Hence, in 1970 Marvin Minsky and Seymour Papert of the MIT AI Laboratory proposed that AI research should focus on developing programs capable of intelligent behaviour in simpler artificial environments known as *microworlds*. Much research has focused on the so-called blocks world, which consists of coloured blocks of various shapes and sizes arrayed on a flat surface. Some critics of such symbolic AI believe that the frame problem is largely unsolvable and so maintain that the symbolic approach will never yield genuinely intelligent systems.

²⁴⁷ *Nouvelle* AI rejects symbolic AI's reliance upon constructing internal models of reality. Its practitioners assert that true intelligence involves the ability to function in a real-world environment and their systems do not contain a complicated symbolic model of their environment. Instead, information is left "out in the world" until such time as the system needs it. A *nouvelle* system refers continuously to its sensors rather than to an internal model of the world: it "reads off" the external world whatever information it needs at precisely the time it needs it or, as the robotics guru Rodney A. Brooks insisted, *the world is its own best model* - always exactly up-to-date and complete in every detail. However, until recently little attention has been paid to the situated approach. See: Rodney A.

reader of Hume, reminds us that the form of the self, as the ground of representation, is something that needs explaining and is not an incontrovertible given from which all explanations arise. An organism's capacity for contractions (habit) could only be explained by the fact that the kind of repetition that we perceive comes from the kind of repetition that we *are*.²⁴⁸ Perception is not apperception precisely because *spatialisation* comes before space.²⁴⁹

We are made of contracted water, earth, light and air - not only prior to the recognition or representation of these, but prior to their being sensed. Every organism, in its receptive and perceptual elements, but also in its viscera, is a sum of contractions, of retentions and expectations.²⁵⁰

The morphogenetic approach proposed by Deleuze reunites the two halves of aesthetics as handed down from Kant: the transcendental from the *First Critique* (1781) and the empirical from the *Third Critique* (1790). As long as sensations are referred back to the *a priori* form of their representation, transcendental aesthetics cannot acquire a real status, but merely a formal one.²⁵¹ However, according to Scott Lash, it bears pointing out that Kant followed the tradition of Alexander Baumgarten who understood the aesthetic to be not so much about art in the narrow sense as about perception as such: "Kant's high sounding 'transcendental aesthetic' is in many ways only another name for the human perceptual apparatus."²⁵² The fact that Deleuze brings together the possible *a*

Brooks, "Elephants Don't Play Chess" (*Robotic and Autonomous Systems* 6, 1990), pp. 3-15.

²⁴⁸ On the basis of the mutual spatio-temporal dynamic of interaction with the environment, Sheldrake equates the perception of animate beings with movement and, in turn, movement with the growth of plants. See: Rupert Sheldrake, *A New Science of Life: the Hypothesis of Formative Causation* (Los Angeles: J.P. Tarcher, 1981).

²⁴⁹ For Kant, transcendental unity of apperception 'takes place' within consciousness. In the words of Evans: I am assuming space is dependent on matter while Kant and [Roger] Scruton assume it is not." See: Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), p. 366. In *The Critique of Pure Reason* (1781) Kant outlined what he meant by space: "Space is not an empirical concept which has been derived from our experiences." Instead space exists "in the mind *a priori* [...]." For Kant, therefore, space, time, causality are not concepts derived from experience, rather they structure experience *a priori*.

²⁵⁰ The Urdoxa of "transcendental unity of perception" prevents an account of the genesis of sense. See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 73.

²⁵¹ Eric Alliez, "Appendix I: Deleuze's Virtual Philosophy" in *The Signature of the World: What is Deleuze and Guattari's Philosophy?* (London and New York: Continuum, 2004), pp. 85-104.

²⁵² Scott Lash and John Urry, *Economies of Signs and Space* (London: Sage Publications 1993), p. 49.

priori and the real *a posteriori* conditions of experience has enormous implications and could be summed up in the assertion that the genetic principles of sensation are one and the same with the principles of composition of a work of art and, by extension, architecture (as plane of composition).²⁵³ "If different examples of architecture [...] are places of visibilities", Deleuze claims, "this is because they are not just figures of stone, assemblages of things and combination of qualities, but first and foremost forms of light that distribute light and dark, opaque and transparent, seen and non-seen, etc."²⁵⁴ According to Levi Bryant, what Deleuze effectively proposes is a post-Darwinian theory of sensibility where our receptive faculties are themselves the result of an artistic creation.²⁵⁵ Art, it should be noted, is not the privilege of humans.²⁵⁶ Or as Colebrook puts it: "Once we try to think the origin of all that is, the very ground of being, then we arrive properly not at the origin of sensibility, but sensibility as origin."²⁵⁷ Sensibility is 'ground zero'.

- 018 **Asignifying Sign** If we want to escape the hegemony of the linguistic signifier, who best to turn to than the 'greatest classifier of signs', Charles Saunders Peirce. Deleuze credits him with propagating the *asignifying sign* which is not formed linguistically, but aesthetically and pragmatically, "as a condition, anterior by right to what it conditions."²⁵⁸ Guattari draws the line between those who relate

²⁵³ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 212. "Sensation is on a plane that is different from mechanisms, dynamisms, and finalities: It is on a plane of composition where sensation is formed by contracting that which composes it." See also: Gilles Deleuze, "What is Dispositif?" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 339. Visibility does not refer to a general light that would illuminate preexisting objects; it is made up of lines of light that form variable figures inseparable from an apparatus. Each apparatus has its regimen of light, the way it falls, softens and spreads, distributing the visible and the invisible, generating or eliminating an object, which cannot exist without it. This is not only true of painting but of architecture as well [...]."

²⁵⁴ Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 49.

²⁵⁵ Interview with Levi R. Bryant (AHB, 2009), <http://anotherheideggerblog.blogspot.com/2009/07/interview-with-levi-r-byrant.html> (accessed May 25, 2011). See also: Gilles Deleuze, "Life as a Work of Art" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), pp. 98-99.

²⁵⁶ See: Elizabeth Grosz, *Chaos, Territory, Art: Deleuze and the framing of the earth* (New York: Columbia UP, 2008).

²⁵⁷ Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), p. 29.

²⁵⁸ Gilles Deleuze, *Cinema 2: The Time-Image* (London: The Athlone Press, [1985] 1989), p. 28. American philosopher Charles S. Peirce - best known as the founding father of semiotics, the science of signs - proposed a distinction between icon, index and symbol. An *icon* is a Sign that represents its Object in resembling it (resemblance). An *index* is a Sign that represents its Object by being effectively connected with it (trace). A *symbol* is a

semiotics to the science of language, - à la Ferdinand de Saussure - and those who consider language as merely one of many instances of the general semiotic.²⁵⁹ Semiotics, particularly in Europe, has generally followed de Saussure's lead and paid more attention to cultural than to natural signs. However, semiotics in the American context was a far more general enterprise and a means of unifying science (psychology, physics and biology). Peirce, the champion of the latter, treats semiology (his term for semiotics) as a process. His signs are modes of sensation, the affect. The (non-correlationist) autonomy of this asignifying sign is paramount if we are to define a body not by its form, nor by its organs or functions, but by its capacity for affecting or being affected. Deleuze provides an example which, at first, seems counterintuitive and proves just how much we are accustomed to Aristotelian categorisation. There are greater differences between a work-horse and a race-horse than between an ox and a work-horse. [Table viii] This is because neither the race-horse nor the work-horse has the same affects or the same capacity for being affected; the work-horse has more affects in common with the ox.²⁶⁰ Things are no longer defined by a qualitative essence, 'man as a reasonable animal', but are defined by a quantifiable power. *The limit of something is the limit of its action and not the outline of its figure.*

The sole task of representation is to tame and domesticate difference, that is, to make it subordinate to identity. Representationism is thus inherently conservative in its appeal for the common (and good) sense. Deleuze never ceases to denounce Kant and phenomenology because it raises recognition and resemblance to the status of a ground of thought, effectively becoming an apologist for *doxa* and the State.²⁶¹ In the Deluzian ontology, resemblance and identity must be treated not as fundamental but as *derivative* concepts.²⁶² Any

Sign that represents an Object essentially because it will be so represented (convention). See: Charles S. Peirce, *Selected Writings* (Dover Publications, 1958), p. 368.

²⁵⁹ Félix Guattari, "Towards a Micro-Politics of Desire" in *Molecular Revolution: Psychiatry and Politics* (London, Penguin, [1975] 1984), pp. 87, 96. "[T]he semiotic fluxes are just as real as the material ones, and in a sense the material fluxes are just as semiotic as the semiotic machines. [...] abstract machinism in some sense 'precedes' the actualization of the diagrammatic conjunctions between the systems of signs and the systems of material intensities."

²⁶⁰ Gilles Deleuze, *Spinoza, Practical Philosophy* (San Francisco: City Lights Books, [1970] 1988), p. 124.

²⁶¹ Phenomenologically driven architecture was developed under the auspices of Christian Norberg-Schulz who reintroduced the ancient Roman (organicist) idea of the *genius loci*, "the spirit of a particular place". Its main contemporary proponents are Juhani Pallasmaa, Alberto Pérez-Gómez and Steven Hall.

²⁶² Manuel DeLanda, "Deleuzian Ontology: A Sketch" presented at *New Ontologies: Transdisciplinary Objects* (University of Illinois, USA, 2002).

taxonomy that operates under the auspices of representation, that is to say, according to the all-too-phenomenological principles of identity, opposition, analogy and resemblance, is bound to be merely rhapsodic.²⁶³

+++++		
	<i>latitude</i>	affect
<i>longitude</i>		
genus/species	RACE-HORSE	WORK-HORSE
	RACE-CAR	OX
+++++		

viii **Spinozist Practice of Ethology** (or study of capacities): *Dynamic and kinetic proposition: Longitude measures the body in terms of speed and slowness (movement and rest) of its material flows, while latitude measures the body by its affects: what the body can do. "Latitude is made up of intensive parts falling under a capacity, and longitude of extensive parts falling under a relation."*²⁶⁴ (G. Deleuze and F. Guattari, 1980)

019 **Multiplicity** In this chapter we explore the legacy of James Jerome Gibson, whose highly innovative concepts developed over thirty years ago continue to stir controversy even among the scholars of the Ecological School. Gibson was well aware of the difficulties in challenging orthodoxies that he himself admitted to have contributed to.²⁶⁵ His neologism *affordance*, akin to the affect, is perhaps the most important for our purposes. It is a key element in ecological theory of direct perception (and action) which constitutes an alternative to the information-processing paradigm.²⁶⁶ It is not merely a new term; it is a new way of organising the logos. What it signifies is that *a mode of existence never pre-exists an event*. It would be difficult to imagine a more elegant shift of focus from the extensive space of properties to the intensive *spatium* of capacities, or in Deleuzian parlance, from longitude to latitude. This is how Gibson explains the shift from the metaphysical experience of space (always and for everyone) to the relational space of experience, which is both synaesthetic and kinaesthetic, that is, dynamic:

²⁶³ The four Deleuzian cardinal "shackles of representation" are: 1) identity in the concept; 2) opposition in the predicate; 3) analogy in judgement; 4) resemblance in intuition.

²⁶⁴ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 257.

²⁶⁵ A vast quantity of experimental research in textbooks and handbooks is concerned with snapshot vision, fixed-eye vision, or aperture vision, and is not relevant to understanding ambulatory vision.

²⁶⁶ This did not prevent it from being excessively (mis)used in Human-Machine Interaction (HMI) research.

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment [...]²⁶⁷

There is a striking parallel with Deleuze for whom concepts do not by any means constitute a set of universal coordinates that are given once and for all. They have no meaning other than to make possible the estimation of a continuous variation. It is never a matter of bringing all sorts of things under a single concept, but rather, relating each concept to the variables that explain its mutations.²⁶⁸ The still all-too-mechanicist One vs. Many has thus to be supplanted by the One-All machinic concept of *multiplicity*, as a non-totalisable sum of diverse individuals, species and environments.²⁶⁹ As John Protevi would have it, creativity comes first, then routinisation. By 'machinic' Deleuze simply means extra-linguistic forms of communication. According to him, "spatiotemporal relations, determinations are not predicates of the thing but dimensions of multiplicities."²⁷⁰ Gibson's assertion that amodal (and ambulant) perception is a rule, rather than an exception, parallels Deleuze's claim that every perception is in fact hallucinatory because it has no object.²⁷¹ In the words of William James: "We were virtual knowers [...] long before we were certified to have been actual knowers, by the

²⁶⁷ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 127. In keeping with the Assemblage Theory, capacities do depend on components' properties but cannot be reduced to them (externality of relations). See: Manuel DeLanda, *A New Philosophy of Society Assemblage Theory and Social Complexity* (London: Continuum, 2009).

²⁶⁸ See: Gilles Deleuze, "On A Thousand Plateaus" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), p. 31.

²⁶⁹ See: Félix Guattari, "The new aesthetic paradigm" in *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p.108. "One must never confuse here machinism and mechanism. Machinism [...] implies a double process - autopoietic-creative and ethical-ontological (the existence of a "material of choice") - which is utterly foreign to mechanism."

²⁷⁰ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 290.

²⁷¹ Amodal perception is a term which describes the full perception of a physical structure when it is only partially perceived, for example a table will be perceived as a complete volumetric structure even if only part of it is visible. The internal volumes and hidden rear surfaces are perceived despite the fact that only the near surfaces are exposed to view, and the world around us is perceived as a surrounding void, even though only part of it is in view at any time. See: Alva Nöe, *Is the Visual World a Grand Illusion?* (Thorverton: Imprint Academic, 2002).

percept's retroactive validating power."²⁷² If perception is, *ipso facto*, virtual, the Part to Whole relationship simply makes no sense. We need to supplant it with the relationship of Ordinary vs. Remarkable (Singular).²⁷³ The optical form does not remain invariant, but the form of the change of form is an invariant. A perceived shape (whole) is not based on a static property such as form (part), but rather upon an invariant embedded in change (singularity). It is for this reason that J.J. Gibson turned his attention to (formless) invariants:

The terrestrial world is mostly made of surfaces, not of bodies in space. And these surfaces often flow or undergo stretching, squeezing, bending and breaking in ways of enormous mechanical complexity. So different, in fact, are environmental motions from those studied by Isaac Newton that it is best to think of them as changes of structure rather than changes of position of elementary bodies, changes in form, rather than of point locations, or changes in the layout rather than motions in the usual meaning of the term.²⁷⁴

The frequent reference to animals in both thinkers is not coincidental. It is meant to emphasise the shared continuum of humans and animals rather than the break so dear to rationalist tradition. We see it as an early indication of the 'Bioegalitarian Turn' to come.²⁷⁵ In contrast to Deleuze who did not explicitly address architecture, except through his disciple Bernard Cache, Gibson was critical of its unsatisfactory theoretical basis and open about his ambition to make a contribution on this score.²⁷⁶

²⁷² William James, *Essays in Radical Empiricism* (New York: Cosimo, [1912] 2008), p. 32.

²⁷³ For Gilles Deleuze and Félix Guattari (ATP, 506-8), "the plane of organization" is the *actual* arrangement of elements in empirically describable and historically determined configurations. "The plane of consistency" is the virtual co-presence of all elements of a totality in their real force-potential (both individual and collective).

²⁷⁴ Invariants are patterns of stimulation over time and/or space that are left unchanged by certain transformations. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 15.

²⁷⁵ Rosi Braidotti, "Elemental Complexity and Relational Vitality: The Relevance of Nomadic Thought for Contemporary Science" in *The Force of the Virtual: Deleuze Science, and Philosophy*, ed. Peter Gaffney (Minneapolis: University of Minnesota Press, 2010), p. 216

²⁷⁶ Bernard Cache, *Earth Moves: the Furnishing of Territories* (Cambridge, MA: MIT, 1995). According to Gibson, "the surface is where most of the action is. [...] the *ecological* laws of surfaces would be useful" [emphasis added] See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 23.

1.2.4 Fifth Chapter

020 **Pedagogy** The fifth and final chapter **Architecture of Immanence** deals with architecture proper, covering the spectrum from the 'reactionary' Neo-Archaism to the 'revolutionary' Ex-Futurism.²⁷⁷ It is written from the pedagogical perspective, but requires a further qualification which draws upon a recent analysis by Jeffrey Kipnis. Schools of architecture could be roughly divided into two types: those whose purpose is to train people in a service profession and the more challenging ones that teach architecture as a cultural (non-discursive) discourse. There has been much scepticism and criticism of the Bologna Process as fitting the former - service profession - type.²⁷⁸ But it is not only evil politicians and empty public treasuries that are to blame for the degradation of university education. According to Jochen Hörisch, the responsibility also rests with educators themselves as no institution parallels the academia in succumbing to infantile narcissism, hyper-bureaucracy, immunity to argument, endogamy and phobia, helplessly revolving around the power-wielders: "Every association of public interest, public television, trade union, athletic club or choir, and every church (however obscure), is vastly superior in this respect."²⁷⁹ The latter approach to architecture - as a cultural discourse - could be at least threefold, according to Kipnis. There is the Canonical Approach of delivering and teaching a time-tested canon. In contrast, Early Adapters move away from the canon to select external elements such as computer techniques, material practices or social issues, and apply them to their programmes. Finally, the Centres of Conjunction pursue basic research and examine the viability of the time-tested canon. They are experimental and accept failure as part of the research process.

²⁷⁷ The terms appropriated from *Anti-Oedipus* (1972) meant to indicate a whole spectrum of expression.

²⁷⁸ Dr Chris Lorenz of the Free University of Amsterdam has argued that: "the basic idea behind all educational EU-plans is economic: the basic idea is the enlargement of scale of the European systems of higher education, [...] in order to enhance its 'competitiveness' by cutting down costs. Therefore a Europe-wide standardization of the 'values' produced in each of the national higher educational systems is called for." Just as the World Trade Organization and GATS propose educational reforms that would effectively erode all effective forms of democratic political control over higher education, so "it is obvious that the economic view on higher education recently developed and formulated by the EU Declarations is similar to and compatible with the view developed by the WTO and by GATS." See also: Slavoj Žižek, *Living in End Times* (London: Verso [2010] 2011), pp. 411-412. "The reduction of higher education to the task of producing socially useful expert knowledge is the paradigmatic form of the 'private use of reason' in contemporary global capitalism."

²⁷⁹ Jochen Hörisch, *Theorie-Apotheke: Eine Handreichung zu den humanwissenschaftlichen Theorien der letzten fünfzig Jahre, einschließlich ihrer Risiken und Nebenwirkungen* (Frankfurt: Eichborn, 2005).

021 **Real Virtuality** Sadly, despite all their apparent differences, they all seem to stand united when it comes to the issue of experience in general and perception in particular (as i/o or S-R). Perhaps this does not come as a surprise since there have not been any truly new theories in the domain in the last four hundred years.²⁸⁰ But can a discipline so heavily dependent on the image afford to ignore the inconvenient truth that *it is not an image that we see* anyway? Perception is *not* inner observation confirmed by inference. [Table ix]

++++
 3D perception ≠ 2D (image) + 1D (inference)
 ++++

ix

Gibson's Debunking of Representationism: *Images are neither necessary for thought nor for perception!* (J.J. Gibson, 1966)

As of recently we may draw upon the compelling evidence of the fast growing neuro-cognitive sciences and not merely upon the armchair thought-experiments. In the words of the philosopher Catherine Malabou who recently revamped the concept of plasticity:

[It] was a very important discovery that the brain wasn't entirely determined. Some anatomic structures of the brain are, of course, genetically programmed, but a significant part of the neural organization is open to outside influences and develops itself consequently to these influences or interactions. It means an important part in the structure of your brain depends on the way you're living and on your experience. History is inscribed within the biological. That is what 'plastic' means when applied to the brain.²⁸¹

So what if drawing is not copying, if it is impossible to copy a piece of environment, if the term representation is utterly misleading, if information is unlimited and the concept of projection useless; all from the point of view of perception? Ignorance is no defence. We are in need of a critique of the conception of the world as an optical phenomenon (ontology of presence). It calls for some major updating of our all-too-ocularcentric theories. 'Image' ought to be recast as a metonym for the *process* of perception.²⁸² Curiously enough, the

²⁸⁰ See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 2.

²⁸¹ See: Noëlle Vahanian, "A Conversation With Catherine Malabou", in *JCRT* (Vol. 9, No. 1, 2008), pp. 1-13.

²⁸² The western ocularcentricity has blinded us and prevented from considering other senses. The tendency to privilege the sight as the sense that gives us access to the truth has been

ambulatory dimension of vision seems to have eluded the greatest of authorities in the field.²⁸³ Architects are known to be keen readers of the SciFi writer William Gibson.²⁸⁴ However, if we are to unlock the real virtuality, rather than the crypto-Cartesian virtual reality, another Gibson is in order. It is high time for architecture to turn away from the comfortable vanity and narcissism that continue to protect it from the hazardous realities of historical becoming. Instead, we are in need of architectural speculation that pragmatically refocuses on discovering new potential in existing conditions.²⁸⁵

1.3 Methodological Considerations

1.3.1 Heuristics

022 **Anexact yet Rigorous** Architecture has mastered metric space all too well: 1D lengths, 2D areas, 3D volumes. We have yet to come to grips with the intensive space or *spatium*. [Table x] The definition of an intensive quantity is best given by contrast with its opposite. An extensive quantity refers to magnitudes which can be spatially subdivided. But if we take a volume of water at 90° C and split it, we do not end up with two halves of 45° C. In the words of Delanda, "Although for Deleuze this lack of divisibility [...] is important, he also stresses another [essential] feature of intensive quantities: a difference of intensity spontaneously tends to cancel itself out and, in the process, it drives fluxes of matter and energy."²⁸⁶ Similarly, the intensive space of experience is antecedent to the engendered experience of extensive space. The Part to Whole relationship - which is perfectly suitable for the realm of the extensive - needs to be radically

elaborated by Martin Jay, *Downcast Eyes; The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press, 1994).

²⁸³ See contributions by Hal Foster, Martin Jay, Jonathan Crary, Rosalind Krauss, Norman Bryson and Jacqueline Rose in Hal Foster, *Vision and Visuality* (Seattle: Bay Press, 1988).

²⁸⁴ In his *Neuromancer* (1984) William Gibson defined cyberspace as 'consensual hallucination' where all the media converges. In this (cyber)space, computer 'cowboys' travel disembodied across the world of data. See: Christine M. Boyer, *CyberCities: visual perception in the age of electronic communication* (New York: Princeton Architectural Press, 1996), p. 14. "From the moment William Gibson announced in his dystopian science-fiction account *Neuromancer* (1984) that the new informational network or computer matrix called cyberspace looks like Los Angeles seen from five thousand feet up in the air, there has been a predilection for drawing a parallel between the virtual space of computer networks and post-urban places [...]."

²⁸⁵ Sanford Kwinter, "Flying the Bullet, or when did the future begin?" in *Rem Koolhaas: Conversation with Students* (New York: Princeton Architectural Press, 1996), p. 68.

²⁸⁶ See: Manuel DeLanda, "Deleuze and the Use of Genetic Algorithms in Architecture" in *Architectural Design: Contemporary Techniques in Architecture*, ed. Ali Rahim, (Academy Press, 2002), pp. 9-13.

upgraded to become capable of capturing topological transformations. But what we are advocating is not a new (computational) model. Quite the opposite, any technological (over)determination needs to be kept at bay.²⁸⁷ What is required instead is a leap of imagination, a new minor heuristic practice.²⁸⁸

+++++		
EXTENSIVE PROPERTY	INTENSIVE PROPERTY	
<i>measurable</i>	<i>gradient</i>	
mass	heat	joy/suffering
volume	elasticity	love/hate
length	pressure	density
time	duration	colour
+++++		

x **Extensive vs. Intensive:** *Two extensive properties add up in a simple way, intensive properties do not add up, but rather average. If a quantity of matter is divided into two equal parts, each part will have the same value of the original, and half the value of the extensive properties.*²⁸⁹ (M. DeLanda, 2002)

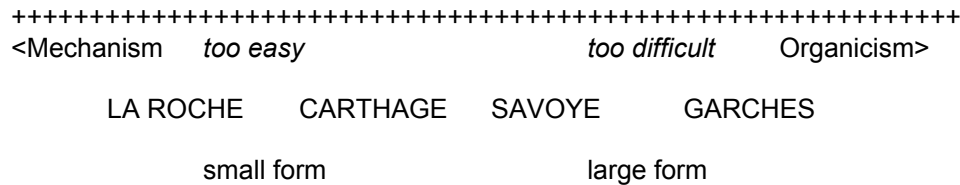
Consider the following precedent from the realm of art. In 1913 Marcel Duchamp produced what he considered to be his most important work: *Three Standard Stoppages*. He cut three lengths of thread of one metre each, dropped them into freefall from the same height and reified their contingently acquired shapes into three respective 'rulers'. The relation among the three thread *events*, as he called them, 'diminished' or challenged the authority of the (conventional) metre. His new measurement scheme was, like Poincaré's, a qualitative system which took the approximate relation among events as the measure, instead of the quantitative method of the metre: "That was really when I tapped the mainstream of my future. In itself it was not an important work of art, but for me it opened the way - the way to escape from those traditional methods of expression long

²⁸⁷ For an example of functional determinism see: Christopher Alexander, *Notes on the Synthesis of Form* (Cambridge: Harvard UP, 1964).

²⁸⁸ Perhaps Gibson's Ecological Approach is heuristic in this sense. See: Albert Jonas, "A Personal View of James Gibson's Approach to Perception" in *Cognitive Critique* (Vol. 1, 2008), pp. 31-34. "What Gibson was doing was providing, to those who would listen, heuristics or techniques that direct attention toward discovery. His advice was that we should direct our efforts to describing stimulus information that had not yet been discovered. He had shown us that this was possible by making many discoveries of new stimulus information throughout his own career."

²⁸⁹ Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 69.

associated with art [...] For me the Three Stoppages was a first gesture liberating me from the past."²⁹⁰ Enough of retinalism!



xi

The Four Compositions [Les quatre compositions] (Le Corbusier, 1931)

Le Corbusier's famous sketch, *Four Compositions*, accompanied by marginal notes, is quite revealing in this respect. [Table xi] It depicts an 'evolutionary chart' of the Container to Content relationship, with the La Roche-Jeanneret House in Paris and the Villa at Garches as the polar opposites.²⁹¹ The spectrum spans the vernacular inside-out on the one hand and the boxlike interior (content) subordinate to exterior (container) on the other. We read it as an attempt to navigate between the Scylla of mechanism and the Charybdis of organicism.²⁹² That is to say, between two respective 'constructivisms': the additive principle of the 'small form' and the subtractive principle (hollowing out) of the 'large form'.²⁹³ We take the distinction from *Cinema I; The Movement Image* (1983), where Deleuze associates the 'large form' with the SAS' formula: from situation to transformed situation via intermediary of action, whereas the

²⁹⁰ Gloria Moure, *Duchamp* (Madrid, Spain: Sala de Exposiciones de la Caja de Pensiones, 1984), p. 232.

²⁹¹ Maurice Besset, *Le Corbusier: To Live With the Light* (Geneva: Skira, [1968] 1987), pp.98-99. The Four Compositions include: 1) La Roche-Jeanneret Houses in Paris (1923), 2) Villa at Garches (1927), 3) Villa at Carthage (1929) and 4) Villa Savoye at Poissy (1929-1931).

²⁹² For a similar reading - framed around the polar opposites of contingency/picturesque vs. order/classical - see: Lars Spuybroek in an interview by Arjen Mulder "The Aesthetics of Variation" in *Interact or Die*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Pub./NAi, 2007), pp. 133-134.

²⁹³ Arie Graafland, "Artificiality in the Work of Rem Koolhaas" in *Architectural Bodies*, ed. Michael Speaks (Rotterdam: 010 Publishers, 1996), p. 42. "[...] Postmodern architecture can never win this struggle to communicate, and that is because the complexity of the building mass is imperceptible [...] The form [Zeebrugge (1989)], which is somewhere between a sphere and a cone, has no other typological reference, no expressive relationship between the inside and the outside. Here, in this highway world, Koolhaas works like a new Le Corbusier, *hollowing out* an enveloping skin. But one does not find in it an already existing cube, as in villa in Garches from 1927, but a modern tower of Babel which is no longer dominated by the confusion of tongues, but instead by rapid efficiency." [emphasis added]

'small form' moves from action to situation, towards new action (ASA'). In the former, action is induced by situation, while the latter operates according to a reversed sensori-motor schema. In Deleuze's words, this is to "contrast the univocal large organism which embraces the organs and functions to the actions and organs which are gradually formed in an equivocal organisation."²⁹⁴ Deleuze emphasises that the two conceptions (global and local) are not opposed, but rather express different ways of constituting the (part to whole) relationship: "The limit of the first would be empty space, but that of the second would be disconnected space [...]."²⁹⁵ There are nevertheless conditions under which one can move from one space to the other. The two limits are themselves re-united in the notion of the any-space-whatever, or what we refer to as the 'phase-space'. In the world of cinema, according to Deleuze, Chaplin's genius lies precisely in doing both at the same time. Our example of the Four Compositions is meant to demonstrate that Le Corbusier was aware of the issue: an 'object' is to be defined neither by its elements nor by a centre of unification or comprehension, but by its invariants under transformation. There is nothing dialectical about this procedure (difference as opposition/negation). Rather, it is a matter of the relations of speed and slowness (differential).²⁹⁶ Forces have different speeds and economies, explains Colebrook, and a tendency is just a specific relation between expenditure and conservation. Despite the (high modernist) rhetoric, this could be and is done only in the process of experimentation.²⁹⁷

Ready-made recipes such as the infamous Five Points are always retroactive.²⁹⁸ So is any manifesto, or ought to be. Scott Lash argues that, in fact, there have always been two modernisms: "[O]n the one hand, American and French modernism that has been largely aestheticist in character, and British and German modernism that is social-critical in character. The Franco-American tradition is more likely to be formalist and stereotomic, while the Anglo-German

²⁹⁴ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 163.

²⁹⁵ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 187. See also: Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 19. "[...] matter that has no empty spaces, is profoundly schizoid."

²⁹⁶ Bodies are not differentiated on the basis of formal class (genera), but rather on kinetic and dynamic terms, that is, by the capacities to affect and be affected.

²⁹⁷ Most great discoveries are by-products.

²⁹⁸ In his 1978 *Delirious New York, A Retroactive Manifesto for Manhattan*, Rem Koolhaas proposes that the European avant-garde manifestos always fell short in their realisation, whereas the Americans - due to their undeniably pragmatic culture - realised new worlds and ideas without having any actual manifesto proclaimed. See: Rem Koolhaas, *Delirious New York: a Retroactive Manifesto for Manhattan* (New York: Oxford UP, 1978).

tradition is more likely to be structuralist and tectonic."²⁹⁹ Seemingly, nothing has changed essentially since the Middle Ages with Romanesque architecture on the one hand and Gothic on the other.³⁰⁰ In other words, we ought to be suspicious of chronology, an attempt to describe history from a transcendental perspective which leads to an empty categorisation and periodisation of *events*. In the words of the philosopher John Rajchman: "In his noo-ology Deleuze thus tried to free philosophy and the 'time' of philosophizing from the whole idea of epoch, and so from portentous images like the self-realization of Spirit or 'Destining' of the West."³⁰¹ For Deleuze, "All that history does is to translate a coexistence of becomings into a succession."³⁰² As for recent architectural history, organicist stereotomy in the guise of bio-mimetics seems to be gaining the upper hand.³⁰³ Perhaps it was to be expected as a reaction to the tectonic high-tech reign that marked the last quarter of the elapsed century. Today, the choice seems to boil down to either the naïveté of techno-utopian neo-scientism on the one hand, or the solipsism of 'poetic' neo-phenomenology on the other.³⁰⁴ Labyrinth and Sphere. No wonder that the claimants of the title of the current architectural avant-garde should be split along precisely this line: Zahaesque 'topological'

²⁹⁹ Scott Lash, *Another Modernity, A Different Rationality* (Oxford: Blackwell, 1999), 29-30. "Structuralism involves a 'tactile' principle, while the formal and 'stereotomic' operates from what Martin Jay calls a principle of 'vision'. Proto-modernist forebears of the structural principle are Ruskin and Morris: their formalist counterparts are, we shall see, Behrens and Sullivan. In painting, structuralism is like expressionism and formalism is like cubism. Structuralism builds gothic-like towers, while formalism builds blocks; structuralism is vertical, formalism horizontal; structuralism is to the arts and crafts and to Kultur what formalism is to more abstract architecture and Zivilisation; structuralism relates to materials as formalism relates to space, formalism in German is 'Architektur', while structuralism, more idiomatically, is 'Baukunst'. Whereas, say, Gothic structuralism is addressed to a Christian principle, its Miesian counterpart is quite substantially self-referential."

³⁰⁰ For a distinction between the static relation of form/matter vs. dynamic relation of material/forces see: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 364.

³⁰¹ John Rajchman, *The Deleuze Connections* (Cambridge, MA: MIT, 2000), p. 40.

³⁰² Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 430.

³⁰³ For an account of mixing subtractive and additive processes see: Peter Eisenman, "From Object to relationship II: Giuseppe Terragni casa Giuliani Frigerio" in *Perspecta* 13/14 (New York, 1971), p. 41. "Subtractive space implies a center and is centripetal in conception; additive space is concerned more with the periphery, with edges and corners, and is centrifugal in conception."

³⁰⁴ A distinction that is all-too-readily compared with McLuhan's 'hot' media of high definition/low participation, and its opposite, 'cool' media of low definition/high participation. See: Marshall McLuhan, *Understanding Media: The Extensions of Man* (Cambridge, MA: MIT Press, [1964] 1994).

parametricism vs. Sejimaesque 'Euclidean' minimalism.³⁰⁵ Empathy and Abstraction? What we expect from the *machinic* alternative is not a reactionary attitude but a positive determination beyond Ex-Futurism and Neo-Archaism. It might just hold the secret of how to go beyond the totality derived from the parts and the totality from which the parts emanate to produce a new Whole, that is, an architecture of immanence.

³⁰⁵ A reference to the two recent Pritzker laureates, Zaha Hadid and Kazuyo Sejima. For an account of 'Parametricism' see Hadid's partner: Patrik Schumacher, "The Parametricist Epoch: Let the Style Wars Begin" in *AJ - The Architects' Journal* (Vol. 231, No. 16, 2010). By contrast, Sejima has recently been described by Toyo Ito as "an architect who uses the maximum simplicity to link the material and the abstract."
<http://www.labiennale.org/en/architecture/director/> (accessed May 25, 2011).

Chapter Two **FALLACY OF MISPLACED CONCRETENESS**

There resides in this only one danger: that the numerical expression may lag behind the sensory perception and that it may, thereby, inhibit it. A formula is very much like a glue. It is also akin to flypaper to which the foolish fall victims. It is like an overstuffed chair which embraces one in its warm arms.¹
(W. Kandinsky, 1923)

We cannot hope to understand natural stimuli by analogy with socially coded stimuli, for that would be like putting the cart before the horse.² (J.J. Gibson, 1960)

¹ Wassily Kandinsky, *Point and Line to Plane* (New York: Dover Publications, [1923] 1979), p.30.

² Presidential Address to the Eastern Psychological Association (New York, April 1960). See: .James Jerome Gibson, "The concept of the stimulus in psychology" in *American Psychologist* (Vol. 15, No. 11, November 1960), p. 702.

2.1 Why Do Things Have Outlines?

2.1.1 Category Error

023 **Threshold** As you arrive on campus you may ask yourself where the university is exactly. Is it in this faculty or that, or perhaps in the library? This is precisely how the philosopher Gilbert Ryle would illustrate a *category error* where the property of an entity is confused with the whole.³ The point of the illustration, however, is not to justify the necessity of scrupulous logical taxonomy but to highlight the eternal problem of the relation of parts to the whole, also known as mereology.⁴ Nesting of relations is quintessentially an architectural problem, as we will attempt to show. If we take Ryle's caution seriously, we can begin to doubt that there is a simple way to account for *any* clear-cut delineation, let alone the one between buildings and the city. After all, the city exceeds (or transcends) any agglomeration of its parts, including buildings. By the same token, *particular* buildings are not merely subsumed under the higher *general* order of the city. They are literally constitutive of it. There is a kind of reciprocal determination (mutual presupposition) which inevitably leads us to side with Marshall Berman, "To be modern is to be part of a universe in which, as Marx said, *all that is solid melts into air*."⁵ This begs a question which is at once naïve and deeply thought provoking: "Why do (nevertheless) things have outlines?" It is precisely what the anthropologist Gregory Bateson does in his *Metalogues*. This is how he enacts a conversation between father and daughter:

Daughter: Daddy, why do things have outlines?

Father: Do they? I don't know. What sort of things do you mean?

Daughter: I mean when I draw things, why do they have outlines?

Father: Well, what about other sorts of things - a flock of sheep? or a conversation? Do they have outlines?

Daughter: Don't be silly. I can't draw a conversation. I mean things.

Father: Yes - I was trying to find out just what you meant. Do you mean "Why do we give things outlines when we draw them?" or do you mean that the things have outlines whether we draw them or not?

Daughter: I don't know, Daddy. You tell me. Which do I mean?

³ 'Category error' ('category mistake' in the original) represents the facts of mental life as if they belonged to one logical type or category, when they actually belong to another. See: Gilbert Ryle, *The Concept of Mind* (London: Routledge, [1949] 2009), p. 16.

⁴ The theory of parthood relations: of the relations of part to whole and the relations of part to part within a whole.

⁵ Marshall Berman, *All That Is Solid Melts into Air: the Experience of Modernity* (New York: Simon and Schuster, 1982), Cf. Karl Marx and Frederick Engels, *Manifesto of the Communist Party* (1948).

Father: I don't know, my dear. There was a very angry artist once who scribbled all sorts of things down, and after he was dead they looked in his books and in one place they found he'd written "*Wise men see outlines and therefore they draw them*" but in another place he'd written "*Mad men see outlines and therefore they draw them.*"

Daughter: But which does he mean? I don't understand.

Father: Well, William Blake - that was his name - was a great artist and a very angry man. And sometimes he rolled up his ideas into little spit-balls so that he could throw them at people.⁶ [Emphasis added]

The spit-ball is impossible to dodge. Once the *law of the excluded middle* is (un)wittingly appropriated it is hard to accept that the outline might be ambiguous or *fuzzy* (beyond binary oppositions: either/or).⁷ Accustomed to representational thought - where difference is subordinated to identity and movement to stasis - we find all these rather counterintuitive. As does Slavoj Žižek in his book *In Defence of Lost Causes* (2009) where he identifies a similar 'deadlock' behind Deleuze's conceptual structure which allegedly rests on two logics that coexist in his work.⁸ On the one hand there is "the logic of sense, of immaterial becoming as the sense-event, as the *effect* of bodily-material processes-causes", and on the other "the logic of becoming as *production* of Beings." The former is the logic of materialism, as Daniel W. Smith explains, the latter of idealism, "two ontologies (sense as effect and sense as cause)."⁹ But what Žižek considers a mere *lapalissade* on the part of Deleuze could be the most important conceptual leap of transcendental empiricism which introduces "movement to thought". To put it crudely, the two logics - of dynamic (DG) and static genesis (SG) - are in fact one (-all): the logic of *reciprocal* determination of the actual and virtual with no meta-form to bridge the gap between the two. As Guattari explains, "These two types of ontological consistency - heterogenetic being-quality and homogenetic being-matter-nothingness [...] constitute themselves from the same plane of entitative immanence and envelop each

⁶ Gregory Bateson, *Steps to an Ecology Of Mind; Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (New York: Ballantine, 1972), p. 39.

⁷ Barry Smith introduces the term *fiat* boundaries to distinguish them from *natural* or *bona fide* boundaries. This is to draw attention to the sense that the former owe their existence to human decision-making (e.g. state borders, the equator, etc.). This 'type', however, is beyond the scope of our research. See: Barry Smith, "Truth and the Visual Field" in *Naturalising Phenomenology*, ed. Jean Petitot (Stanford: Stanford UP, 1999).

⁸ Slavoj Žižek, *In Defence of Lost Causes*, (London: Verso, 2009), p. 367.

⁹ See: Daniel W. Smith "From the Surface to the Depths: On the Transition from *Logic of Sense* to *Anti-Oedipus*" in *Gilles Deleuze: The Intensive Reduction*, ed. Constantin V. Boundas (London and New York: Continuum, 2009) p. 82.

other."¹⁰ The *distinct-obscurity* of the virtual yields *clear-confused* actuality. It was Descartes who posited the "clear and distinct" as the highest principle of common sense. But, as Smith explains, Deleuze follows a 'minor' tradition where a clear idea is in itself confused insofar as it is clear:

The conscious perception of the noise of the sea, for example, is clear but confused, for our perception comprehends the whole confusedly, and only expresses clearly certain elements and relations depending on the thresholds of consciousness determined by our body. Conversely, the components of the Idea are distinct but obscure: distinct, insofar as all the drops of water remain distinct as the genetic elements of perception, with their differential relations, the variations of these relations, and the singular points they determine; but obscure, insofar as they are not yet 'distinguished' or actualised in a conscious perception. Every sensation, in short, is clear but confused, but is constantly plunged back into the distinct-obscurity from which it emerged.¹¹

024 **Re-Presentation** Our strong conviction - that the conditions of sensations are, at the same time, conditions for the production of the *new* - calls for an aesthetic rather than merely epistemological approach to design. But this is easier said than done considering the traditional tendency to regard the singular - or the purely present - as fulfilled only in the thought of some representable whole. Colebrook thus identifies an 'architectonic' impulse in metaphysics, "regarding as properly present only that which can be re-thought, brought to consciousness and rendered universal and transparent to thought in general."¹² Conversely, a particular metaphysical impulse in architecture makes it highly dependent on representation and as such prone to *misplacing concreteness*. The distinction between *allographic* and *autographic* arts is telling in this respect.¹³ Sculpturing, for example, is an autographic (unmediated) practice where the author is directly engaged with his piece. This makes it a 'minor tradition' in Deleuzian terms, which requires apprenticeship for acquiring the necessary know-how or skill. The

¹⁰ See: Félix Guattari, "The new aesthetic paradigm" in *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p.111.

¹¹ Daniel W. Smith, "Deleuze's Theory of Sensation: Overcoming the Kantian Duality" in *Deleuze: a Critical Reader*, ed. Paul Patton (Oxford: Blackwell Publ., 1996), pp. 38-39.

¹² See: Claire Colebrook, "The Sense of Space: On the Specificity of Affect in Deleuze and Guattari" in *Postmodern Culture* (No. 15.1, 2004). "What needs to be thought are not sets of relations but the tearing of the singular from itself [...]."

¹³ In *Languages of Art*, Nelson Goodman distinguishes between allographic and autographic art. Allographic art has a score in some form of notation (such as music, drama, literature and in some cases dance). Autographic art does not have a score or notation (such as painting). It is immediate in a way that allographic work is not. See: Nelson Goodman, *Languages of Art: an Approach to a Theory of Symbols* (Indianapolis: Hackett, 1976).

architect, in contrast, works in a mediated way through projections.¹⁴ Since the birth of Western architecture in classical Greece, architects have been making mediating artefacts rather than buildings. Architectural representation, as exemplified in Vitruvius' elaboration of the Greek word *idea*, consists of orthogonal projections (*ichnographia* and *orthographia*) and of what is variously interpreted as the inscription of shadows/the drawing of a building in perspective (*sciographia* or *scaenographia*). [Table xii]

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<i>Ichonographia</i>	<i>Ortographia</i>	<i>Scaenographia</i>
PLAN	ELEVATION	PERSPECTIVE
function/horizontal movement	structure/vertical image	movement+image
<i>Utilitas</i> (commodity)	<i>Firmitas</i> (firmness)	<i>Venustas</i> (delight)
+++++		

xii **Three Heads of the Idea:** *The Ten Books is regarded as the earliest Western work of architectural theory.* (Vitruvius, 1st century BCE)

Myth has it that the art of drawing began with a Corinthian maiden outlining the shadow of her departing lover on the wall. In the case of architectural representation the shadow precedes the object that is supposed to cast it, as it were. As a medium, the architectural drawing/model performs a double role. It is a mode of notation, analytic and reflexive, and at the same time a thought-generating model, synthetic and productive and, as such, indispensable.¹⁵ Reduction, abstraction and representation are inherent to it. It is top-down and 'objective'. It is an *overview*. Apart from the necessity to add more 'strata' to address the ever increasing complexity of the so-called 'information flows' (statistics, demographics, economic performance, etc.), Vitruvius' basic scheme

¹⁴ Marcus Vitruvius Polio, *De Architectura [Ten Books on Architecture]* First Book, Chapter Two: The Fundamental Principles of Architecture, Point Two."Arrangement is the disposition in their just and proper places of all the parts of the building, and the pleasing effect of the same; keeping in view its appropriate character. It is divisible into three heads, which, considered together, constitute design: these, by the Greeks, are named ἰδέαι: they are called ichnography, orthography, and scenography. The first is the representation on a plane of the ground-plan of the work, drawn by rule and compasses. The second is the elevation of the front, slightly shadowed, and showing the forms of the intended building. The last exhibits the front and a receding side properly shadowed, the lines being drawn to their proper vanishing points. These three are the result of thought and invention." http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Vitruvius/1*.html (accessed May 25, 2011).

¹⁵ Like Bijlsma, Wouter Deen and Udo Garritzmann, "Diagram" in *Oase* (No. 48, 1998), p. 1.

may be said to be valid still.¹⁶ *Ichonographia*, translated as plan, is the main generator of function and concerns the horizontal, whereas *orthographia*, translated as elevation, is the main generator of structure and concerns the vertical. The architect Lars Spuybroek has been overtly critical of this orthodoxy:

Obviously, our whole idea of perception and action as unrelated bodily function, the whole Cartesian distinction between eyes and feet, is incarnated in architecture as the dichotomy between walls and floors, aesthetics and program, elevation and plan. It's as simple as that. This also means the relation of space, movement and body has always been misunderstood, or at least put in the wrong order. There is simply no movement apart from image, no image apart from movement.¹⁷

The third Vitruvian head of *Scaenographia* is something completely different. The converging parallels draw it away from the intelligible realm towards the sensible environment, acknowledging our necessarily relative - that is aesthetic - point of view. Make no mistake, perspective keeps us in the realm of representation. However, where relative proportions take priority over absolute, the pendulum inevitably swings to the side of the embodied (albeit arrested)

¹⁶ Giambattista Nolli, who in 1748 produced a map of Rome that would define the conventions of urban mapmaking, wouldn't know where to begin, claims Leong: "Were he to be given the task of mapping the late-twentieth-century city, none of the standards that he refined and that have permeated the history of urban visualisation would be adequate to fulfil the informational requirements of contemporary urbanisation. The familiar conventions that indicate the material density of the city, the markers of private or public space that distinguish inside from outside, and the monumental and civic icons that serve as points of orientation or focus would be little more than obsolete gestures toward faint memories of urban ideals. Instead, the manifestations of the powers that configure the city have shifted from the outwardly visible to invisible; in other words, the city is rendered less through composition, gravity, form, or material than is through statistics, demographics, and economic performance. *Indeed, the idea of what constitutes cartography of the late-twentieth-century city has changed so fundamentally as to require a drastic evolutionary leap in the way the city is represented [...].* [emphasis added] See: Tsung Leong, "Ulterior Spaces" in *Harvard Design School Guide to Shopping*, ed. R. Koolhaas et al. (Köln: Taschen, 2001), p. 765.

¹⁷ Lars Spuybroek, "Substance and Accident" in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 52. See also: Lars Spuybroek, "Motor Geometry" in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 41. "Though beginning a design with such topological logic might seem an innocent act, one must understand that it implicitly negates the floor as an *a priori* horizontal datum (and the wall as an *a priori* vertical elevation)." See also: Benjamin H. Bratton, "The Program is Not on the Floor: Stories about Projection, Planning, and Partition", *Sci-Arc Lecture* (18 February, 2009), [http://www.sciarc.edu/sciarc_player.html?vid=http://www.sciarclive.com/Lectures/2009_02_18_Bratton.flv&title=Benjamin Bratton](http://www.sciarc.edu/sciarc_player.html?vid=http://www.sciarclive.com/Lectures/2009_02_18_Bratton.flv&title=Benjamin%20Bratton) (accessed May 25, 2011).

observer. The perspective representation does not 'trick' object-perception, as Massumi explains, it activates it otherwise: "The experience of depth is not an optical 'illusion.' It's a real experience of depth, minus the depth."¹⁸ This is as close as one gets between the nose and the horizon, the famous 'perspectival hinge'.¹⁹ We shall consider it as a (spatial) near-analogy to the apex of the famous Bergsonian cone (pure Memory), representing the present in its engagement in action upon Matter. Perspective is, therefore, not a 'subjective deformation of things'. On the contrary, 'nontranscendental perspectivism' reunites life forms with the world. It is therefore as much about de-framing (Whole) as it is about en-framing (Part). Mere recognition of a point of view is a matter of *aisthesis* where the universal is subsumed by the particular. Deleuze explains: "What makes me = me is a point of view on the world. Leibniz cannot stop. He has to go all the way to a theory of point of view such that the subject is constituted by the point of view and not the point of view constituted by the subject."²⁰ However, the world is not viewed in perspective.²¹ Furthermore, neither pictures nor projections are fundamental to the visual experience - we see before we know anything of such abstractions - but they have become fundamental to our sharing of sight. According to Foucault, images are 'quasi-perceptions'.²² At any rate, the

¹⁸ "The experience of depth has been made to take off from its usual experiential framing and enter a different frame. What perspective painting does is tap into the abstraction already at the basis of object perception, and carries it to a higher power, where it is the object itself and not only touchings of it and movings-around it that are abstracted, that is to say, really appear virtually, a pure appearance. That pure appearance occurs *through* an actual object – the canvas, frame and pigment setup. But the painting as actual object in its own right disappears into the abstraction it taps. When you are experiencing painted depth, you aren't looking at a canvas, you are seeing a scene. You're seeing *through* the canvas into an abstraction that it has taken off from it, and is a qualitatively different perceptual event." See: Brian Massumi "The Thinking-Feeling of What Happens: A Semblance of Conversation" in *Inflexions: How is research-Creation?* (No. 1.1, May 2008), p. 16. www.inflexions.org (accessed May 25, 2011).

¹⁹ Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT, 2000), p 5. "[...] the first crucial step is to acknowledge that value-laden tools of representation underlie the conception and realization of architecture."

²⁰ See: Gilles Deleuze, *Cours Vincennes: "Leibniz"* (April 15, 1980), <http://www.webdeleuze.com/php/texte.php?cle=50&groupe=Leibniz&langue=2> (accessed May 25, 2011).

²¹ Rather, the underlying invariant structure emerges from the changing perspective structure. James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 197.

²² Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), p. 357. Cf. Michel Foucault, "Dream, Imagination and Existence" in *Review of Existential Psychology and Psychiatry 19* (No. 1, 1984-1985), p. 41.

image always comes before the word.²³ The point of view, which is tied to the (potential) encounter, opens up the capacity to affect and be affected in return.²⁴ The 'elbow room' of under-determinacy inevitably raises the ethical question of what is to be done.²⁵ In *The Logic of Sense* (1969), Deleuze appeals to the Stoic ethics. To be ethical is to become worthy of what happens to us. This entails becoming the quasi-cause of what is produced within us. That is to say, one wills "not exactly what occurs, but something *in* that which occurs, something yet to come which would be consistent with what occurs, in accordance with the laws of an obscure, humorous conformity: the Event."²⁶ The 'mystery of depth' has been exploited by numerous artists. However, the meaning of architectural experience cannot be fully translated into other media. Depth is a dimension of perceptual cohesion and reversibility which allows things to appear mutually dependent through their autonomy and to reciprocally manifest their 'objectivity' through mutual concealment. In other words, *depth perception is a habit of movement*. Depth is therefore not a third dimension.²⁷ If it were any dimension at all, as Merleau-Ponty writes, it would be the first.²⁸ It arises out of a primordial

²³ See: William J. Mitchell, "The Future of the Image: Rancière's Road Not Taken" in *Culture, Theory & Critique* (No. 50 (2-3), 2009), pp. 133-144.

²⁴ The thesis does not engage the 'symbolic' but rather affective dimension of perspective. It is curious to note that while our culture questions the Cartesian dualistic concept of reality divided into *res cogitans* and *res extensa*, the same concept reemerges where one expects it the least - in *cyberspace*.

²⁵ "It is only because relation is virtual that there is any freedom or creativity in the world. If formations were in actual causal connection, how they effectively connect would be completely determined. They might interact, but they would not creatively relate. *There would be no gap in the chain of connection for anything new to emerge from and pass contagiously across. There'd be no margin of creative indeterminacy. No wriggle room. Or to borrow Whitehead's expression, there'd be no "elbow room" in the world.* The idea that all connection and communication is immanent, that there is no actual relation, is at the heart of Whitehead's philosophy. He calls it the 'contemporary independence of actual occasions.'" [emphasis added] See: Brian Massumi "The Thinking-Feeling of What Happens" in *Interact or Die*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Pub./NAi, 2007), p. 84. See also: Gilles Deleuze and Claire Parnet, *Dialogues* (New York: Columbia UP, [1977] 1987), p. 65. "[...] we must always be worthy of what happens to us. Stoic morality is undoubtedly this: not being inferior to the event, becoming the child of one's own events."

²⁶ See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 149.

²⁷ Geometry of information must be kept independent from the geometry of a receptor surface. The binocular organ does not deal with two things, only one: a transformational invariant. Similarly, three-dimensionality is no longer a problem because the information specifies the three-dimensional character of the world. See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 120.

²⁸ Maurice Merleau-Ponty, "Eye and Mind" in *Maurice Merleau-Ponty, The Primacy of Perception*, ed. James M. Edie, trans. Carleton Dallery, (Evanston: Northwestern University Press, 1964), p. 180.

experience which "belongs to the perspective and not to things."²⁹ According to Henry Somers-Hall, Merleau-Ponty's conception of Depth comes close to the Bergsonian conception of time:

Depth is not a space in the conventional sense of a series of dimensions through which the movement of objects can be measured, but a place where relationships between objects as differential processes are formed. As such, it is closer to the idea of a place where bodies come to be through their interrelations than a spatially extended area where objects can be moved around, measured, and compared with those about them. Things maintain themselves by the pushing forward and holding back of relations with other things, thus prohibiting the isolation and analysis of any one from its milieu.³⁰

025 Enunciative Substance At the risk of oversimplifying, let us consider the three modes of perceptual *legibility* as offered by the architect Sarah Whiting during the *Projective vs. Critical* debate at TU Delft (2006): applied legibility (metaphor), process legibility (grid/system) and experienced legibility (perspective).³¹

The first one might be related to the strategy of producing what is effectively a *logo*, aimed at rallying public support for an architectural project. Such a *representational* approach, which often involves double coding, clearly focuses on galvanizing a collective desire.³² Even if rationalised as a strategy of

²⁹ See: Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, [1945] 2006), p. 298. Cf. Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 230. "It is the power of diminution of the intensity experienced that provides a perception of depth (or rather, provides depth to perception)."

³⁰ See: Henry Somers-Hall, "Deleuze and Merleau-Ponty: Aesthetics of Difference" in *Gilles Deleuze: The Intensive Reduction*, ed. Constantin V. Boundas (London and New York: Continuum, 2009), pp. 124-125. A similar point is made by Elizabeth Grosz: "If past, present, and future are always entwined and make each other possible only through their divergences and bifurcations, then perhaps there is a way to consider spatiality in terms of nearness and farness, relations of proximity and entwinement, the interimplications of the very near and the very far, rather than of numerals or geometry." See: Elizabeth Grosz, *Architecture from the Outside: Essays on Virtual and Real Space* (Cambridge, MA: MIT, 2001), p. 129.

³¹ The *Projective Landscape Conference* took place on March 16-17, 2006 at TU Delft. For an overview of this debate see George Baird, "'Criticality' and its Discontents" in *The Harvard Design Magazine* (No. 21, Fall 2004/Winter 2005), pp. 16-21. See also: Robert Somol and Sarah Whiting, "Notes Around the Doppler Effect and Other Moods of Modernism" in *Perspecta* (No. 33, 2002), p. 73.

³² See: Alejandro Zaera-Polo, "The Hokusai Wave" in *Quaderns* (No. 245, April 2005), pp. 77-87. "The crucial matter here, rarely discussed within the architectural debate, is the relationship between the acquisition protocols and their architectural output, or, in more general terms, between power and control. This is the relationship addressed by Peter

subterfuge, this path may backfire. As Sylvia Lavin recently noticed, "As it turned out, '1776' won the World Trade Center [competition], not Libeskind."³³

By contrast, the mode of process legibility is literally systematic, encompassing all the used and abused practices of (cognitive) mapping. Contrary to the dogma of the fast growing parametricism it is absolutely necessary but not sufficient. In that we side with Smith and Ballantyne's recent critique of the Catalan sociologist Manuel Castels who - despite the promise of his 'Space of Flows' - effectively relegated architecture to the neutral backdrop against which flows flow: "Rather than seeing the space of flows [...] as a novelty that is introduced as society adopts digital technologies, we would rather generalise the idea to include such flows as electricity, plumbing, rainfall and ventilation. Flow is a general condition that is pervasive in speculative accounts of the origins of things, whether in Biblical chaos or Lucretius' *clinamen*."³⁴

Finally, experienced legibility - never mind the oxymoron - is the closest to what this chapter is trying to address. What sets it apart from the former two modes of legibility is a difference in kind and not just degree.³⁵ As the topology *connoisseur* Sha Xin Wei points out, in *Chaosmosis*, Félix Guattari identifies a

Eisenman in his deliberate disinterest in power in order to maintain architectural control or by Rem Koolhaas in his fascination with pure power at play, freed from any architectural control. These two extreme positions frame the discussion and the attempt to construct a binding relationship between them through a very specifically architectural subject: representation. [...] Hokusai wave [metaphor for the FOA's Yokohama Terminal Project] epiphany will save us from the trap of having to be devoted either to power or to control [...]."

³³ See: Sylvia Lavin, "Conversations over Cocktails" in *Quaderns* (No. 245, April 2005), pp. 89-90. "[M]etaphors remain powerful traps that lure one into believing in the transparency of language such that, particularly when instrumentalized, metaphors camouflage their role in rhetoric and falsely colonize the realm of truth."

³⁴ Christopher Smith and Andrew Ballantyne, "Flow: Architecture, Object and Relation" in *Architectural Research Quarterly* (Vol. 14, No. 1, 2010), p. 21. "Castels introduced the concept in his text *The Informational City: Information Technology, Economic Restructuring and the Urban-Regional Process* (1989) where he defines the 'space of flows' in terms of the societal impacts of real-time global information networks. In a later series of texts *The Information Age: Economy, Society and Culture* (published in three volumes between 1996 and 1998) and in subsequent papers, he expanded the idea and broadened its impact."

³⁵ This cleavage is not unrelated to Somol's distinction between two schools of contemporary architecture fostering two distinct orientations towards disciplinarity: as 'autonomy and process' (Eisenman's reading of the Domino diagram) on the one hand, and as 'force and effect' (Koolhaas' staging of the Downtown Athletic Club) on the other. See: Robert Somol, "All systems GO! The Terminal Nature of Contemporary Urbanism" in *CASE: Downsvew Park* (New York and London: Prestel, 2001). "Within advanced design circles today one can distinguish a politics of the index (with its emphasis on process, contingency, and the critical) from a politics of the diagram (effect, plasticity, projection)."

stratum in the 'enunciative substance' where processes work below or outside the level of meaning, namely a-signifying semiotics. In contrast to the familiar (signifying) semiotics, a-signifying semiotics handles figures of expression that might be qualified as 'non-human' (experience):

[...] Structuralists have been content to erect the Signifier as a category unifying all expressive economies: language, the icon, gesture, urbanism or the cinema, etc. They have postulated a general signifying translatability for all forms of discursivity. But in so doing, have they not misunderstood the essential dimension of machinic autopoiesis? This continual emergence of sense and effects does not concern the redundancy of mimesis but rather the production of an effect of singular sense, even though indefinitely reproducible.³⁶

To put it simply, modes of *semiotisation* - defined by Guattari as that which happens with perception, movement in space, singing, dancing, mimicry, caressing, contact and everything concerned with the body - cannot and must not be reduced to the dominant language.³⁷ The non-representational *diagram*, or the topologised schema which represents the plastic aspect of reality, will be dealt with subsequently.³⁸ However, by way of anticipation, we can state that this 'abstract machine' simply does not distinguish between notions such as content and form.³⁹ Its purpose is not to represent any existing world but to produce a new kind of reality. It is therefore not to be used as a metaphor or reference, but as a generator.

026 **Enactivism** Will *this* (book/information) really eventually kill *that* (architecture/matter) as Victor Hugo once claimed?⁴⁰ The hegemony of the

³⁶ See: Sha Xin Wei, "Resistance Is Fertile: Gesture and Agency in the Field of Responsive Media" (*Configurations*, 2003), pp 10:439–472. "In place of [the] attempts to bridge language or logic with the material, I will take up the stuff of gesture - its material topology - and elaborate what Felix Guattari glimpsed and labelled as the a-signifying semiological stratum." Cf. Félix Guattari, "Machinic heterogenesis" in *Chaosmosis: An Ethico-aesthetic Paradigm* (Bloomington: Indiana University Press, 1995), pp. 36-37.

³⁷ See: Félix Guattari, "Molecular Revolutions" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 279.

³⁸ See: Sanford Kwinter, "The Genealogy of Models: The Hammer and the Song" in *ANY: Diagram Work*, ed. Ben Van Berkel and Caroline Bos (New York: Vol. 23, 1998).

³⁹ Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 34.

⁴⁰ Victor Hugo, *The Hunchback of Notre-Dame* (Dick and Fitzgerald, 1862), p. 83. "'Pasquedieu! what are your books, then?' 'Here is one of them,' said the archdeacon. And opening the window of his cell he pointed out with his finger the immense church of Notre-Dame, which, outlining against the starry sky the black silhouette of its two towers, its stone flanks, its monstrous haunches, seemed an enormous two-headed sphinx, seated in the middle of the city. The archdeacon gazed at the gigantic edifice for some time in silence,

signifier has an unfortunate side-effect which is that of the tendency to reduce the meaning of art and architecture to *information*, thus forgetting that the theory of expression is not concerned with the communication of information but with the genesis of the definite.⁴¹ The time has come, as Bernard Cache contends, to oppose the ideology of Information with a philosophy of Incarnation.⁴² Architecture can and must embody values of a different order than those rooted in fashion, formal experimentation, or publicity. It can be cast in forms stripped of seductive gloss adorning the omnipresent mechanisms of cultural domination where the desire for the 'new' is reduced to docile and compulsive forms of consumerism.⁴³ Moreover, the gradual drifting away from the non-discursive toward the formal(ist) often leads to describing concrete actual entities as if they were (only) categories of thought or representation.⁴⁴ This is what the process philosopher Alfred North Whitehead condemns as a fallacy of misplaced concreteness. Naming something a 'public space' does not make it that. Contrary to common sense, the problem is not that our methods are too abstract, but quite the opposite: they are not abstract enough. This brings us back to the problem of

then extending his right hand, with a sigh, towards the printed book which lay open on the table, and his left towards Notre-Dame, and turning a sad glance from the book to the church, - 'Alas,' he said, 'this will kill that!'"

⁴¹ See: Michael Speaks, "After '68: Nouvel, Piano, Rogers and the Tall Building" in *A+U* (No. 396, September 2003). "If one were to write a short history of architecture since May '68, [...] it would begin by recounting the passing of phenomenology and its belief in authentic experience; depending on its author, it would also lament, celebrate, or simply observe the rise of semiotics and an image-driven world that severed all ties to anything that purported to exist outside the image. An entire chapter or more would be required to document and explain the decreasing relevance of first-hand experience in architectural education and the increasing importance of glossy magazine profiles and weighty, overstuffed monographs consumed not only by the architectural devotee but also by masses whom he happily joined. Architecture, after '68 [...] became a medium of mass communication, and meaning, whether post-modern, deconstructive, or critical-regional, became the coin of its realm. However different from each other, almost all of the major movements in architecture after '68 were unified in the belief that signs, images and the messages they communicated had become more important than space itself. This, it seems, is what everyone 'learned from Las Vegas'."

⁴² Bernard Cache, "Objectile: The Pursuit of Philosophy by Other Means?" in *Architectural Design* (Vol. 69, No. 9-10, 1999), p. 69. Semantic information does indeed appear to obey different thermodynamic rules. As one commentator puts it: "Information is unlike meat. After passing on to you my stoneworking technique I still have it."

⁴³ Rosi Braidotti, "The Politics of Life 'Itself'" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), p. 209.

⁴⁴ "Archeology [of Knowledge by Foucault] put forward a distinction between two types of practical formations: the one 'discursive', involving statements, the other 'non-discursive', involving environment." See: Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 31.

outlines. The self-proclaimed *transcendental* empiricist (not an oxymoron) Gilles Deleuze is helpful in resuscitating a unique insight into the Stoic thought.⁴⁵ When one defines a figure by its outlines everything that happens inside is no longer important. It is because of this, as Deleuze says, that Plato was able to abstract the pure idea. By contrast, the Stoics conceived of a totally different image of the limit: *The question is not where does a FORM stop but rather where does an ACTION stop!* The two rarely coincide - if ever - and this is why we need to turn to non-metric geometries for help. Topology famously dismisses extensive or metric properties, focusing instead on the 'intensity' of relations (which, paradoxically, are external to the terms of relations). A mundane example by Deleuze is illustrative:

You are walking in a dense forest, you're afraid. At last you succeed and little by little the forest thins out, you are pleased. You reach a spot and you say, "whew, here's the edge." The edge of the forest is a limit. Does this mean that the forest is defined by its outline? It's a limit of what? Is it a limit to the form of the forest? It's a limit to the action of the forest, that is to say that the forest that had so much power arrives at the limit of its power, it can no longer lie over the terrain, it thins out.⁴⁶

What Deleuze alludes to is that a structure has nothing to do with a form. It is neither defined by the autonomy of the whole nor by the expression of the whole in its parts: "structure is defined, on the contrary, by the nature of certain atomic elements that claim to account both for the formation of wholes and for the variation of their parts."⁴⁷ As Alberto Toscano explains - unlike some of his contemporaries (Derrida, Adorno) - Deleuze does not register any contradictions in the relationship between structure and genesis. Indeed, the message seems to be that structure *is* genesis.⁴⁸ *Instead of structure we should be talking about structuration.* Things are bodies and bodies are not ideas but actions.⁴⁹ Therefore, a thing is power and not form.

⁴⁵ See: John Sellars, "The Point of View of the Cosmos: Deleuze, Romanticism, Stoicism" in *Pli* (No. 8, 1999), pp. 1-24.

⁴⁶ Gilles Deleuze, *Cours Vincennes*; "Spinoza" (February 17, 1981), <http://www.webdeleuze.com/php/texte.php?cle=38&groupe=Spinoza&langue=2> (accessed May 25, 2011).

⁴⁷ Gilles Deleuze, "How Do We Recognize Structuralism?" in *Desert Islands: and Other Texts 1953-1974*, ed. David Lapoujade (Los Angeles: Semiotext(e), 2004), p. 173.

⁴⁸ Alberto Toscano, *The Theatre of Production: Philosophy and Individuation between Kant and Deleuze* (Basingstoke: Palgrave Macmillan, 2006), p. 169.

⁴⁹ "[...] for example a circle does not extend in space in the same fashion if it is made of wood as it does if it is made of marble. Further, 'everything is a body' will signify that a red circle and a blue circle do not extend in space in the same fashion. Thus it's tension." See:

2.1.2 Affect

027 **Molyneux Problem** The limit of something is the limit of its action and not the outline of its figure. James Jerome Gibson, the father of the *Ecological School of Perception*, would certainly concur. The figure-ground phenomenon, as Gibson maintained, does not apply to the world in general: "The notion of a closed contour, an outline, comes from the art of drawing [...]."⁵⁰ Gibson's lifelong effort to counter representational theories served not only to substantiate his ecological alternative but also to expose the questionable epistemological and ontological assumptions upon which they tacitly rest. *Perception is not inner observation confirmed by inference*. Rather, it is outer exploration (exoreception) accompanied by proprioception (egoreception), also known as the 'joint sense'. For example, when your head is tilted, you are 'aware' of it and this is the reason why the world does not tilt. If the eyes were not *anchored*, Gibson explains, the phenomenal world would 'swing' instead of being the fixed frame of reference that it is:

The formula of visual kinesthesia for the explanatory movements of the eyes, and of the head and eyes together, resolves a number of long-standing puzzles concerning visual sensations. It cuts a Gordian knot. The century-old problem of why the world does not seem to move when the eyes move and the analogous problem of why the room does not appear to go around when one looks around are unnecessary. *They only arise from the assumption that visual stimuli and visual sensations are the elements of visual perception*. If the visual system is assumed instead to detect its own movements along with extracting the [ecological] information about the world from the ambient light, the puzzles disappear [...] Everybody knows what pictures are, and textbooks tell us that retinal images are pictures. [...] it took me years to detect the fallacy.⁵¹ [emphasis added]

Gilles Deleuze, *Cours Vincennes: "Deleuze/Spinoza"* (February 17, 1981), <http://www.webdeleuze.com/php/texte.php?cle=38&groupe=Spinoza&langue=2> (accessed May 25, 2011).

⁵⁰ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 66.

⁵¹ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 219-220. See also: T. Erismann and I. Kohler, *Living in a reversed world* (film) University Park, Pennsylvania: PCR: Films and Video in Behavioral Sciences, 1958. Kohler and Erismann have investigated the effects on visual experience of rotating the incoming light 180° around the line of sight so that the retinal images were either right side up (instead of being in their customary inverted orientation), or mirrored with regard to the vertical axis. The subjects wearing the mirroring goggles would at first experience utter disorientation, but relatively quickly regained their

The purpose of perception is not to convert or translate the physical world into a meaningful environment (fallacy of access), but to keep life forms in touch with the world. There is no 'subjective' contribution to perception, only the degree to which a life form can successfully perceive. Nor can there be an 'objective' contribution to perception, only a more or less organised environment replete with information capable of supporting perception.⁵² Research in artificial intelligence (AI) has only recently begun to exploit the thesis of anchoring or object-centred perception.⁵³ Here is the difference between the earlier Symbolic AI and the more recent Behavioural (Animate) AI as explained by Pattie Maes:

Symbolic AI decomposes minds into relatively large functional modules (perception, execution) interfaced together by central representations (beliefs, desires, intentions). The activity of the modules and the representations form a static 'model of the world', and the effects of learning are conceived as the operation of reformulating this model. Behavioural AI, on the other hand, does not involve high level general modules [...] but low level specific modules (such as 'collision avoidance'). High level skills emerge out of the interactions of these micro-modules, none of which can be said to possess the skill. More importantly [...], behavioural AI does not aim at the internal generation of a world model, but rather, it situates its robotic animals in the real world so that the objective features of the environment can be used as a form of external memory. This modelling strategy is sometimes expressed with the phrase: *The world is its own best model.*⁵⁴ [emphasis in the original]

If we read the above through the lens of reversed engineering it is possible to say that - contrary to usual disclaimers - any resemblance to the real theories of mind is deliberate. There is no universal structure of the human mind. As Guattari cautions, "It may seem stupid to have to make such obvious statements, and yet

competency in interacting with the environment, a proof that visual experience exists merely in conjunction with the recaptured competency of the individual in the environment. See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 280.

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⁵³ 'Gaze control' mechanisms fundamentally change computational models of vision. Without them the visual system must work in isolation, with the burden of solving difficult problems with many degrees of freedom. With them a new paradigm emerges in which the visual calculations are embedded in a sensory-motor repertoire that reduces degrees of freedom and has the following computational advantages. Object-centred coordinates have a great advantage over ego-centric coordinates in that they are invariant with respect to observer motion. See: Dana H. Ballard, "Animate Vision" in *Artificial Intelligence Journal* (No. 48, 1991), pp. 57-86.

⁵⁴ Manuel DeLanda, "Homes: Meshwork or Hierarchy?" in *Mediamatic Magazine* (Vol.8, No. 2/3, 1995).

such swindles must be denounced tirelessly."⁵⁵ Any attempt at reversed engineering of perception/cognition, successful or not, is most welcome as it often debunks some of the most resilient images of thought. Beware of the statements that start with 'everybody knows'. Reversed engineering helps us understand how we cope with the environment. The world could be said to possess a kind of intrinsic 'proto-semantics' which is meaningful to life forms in a functional way. Again, sensation is not only kinaesthetic but also synaesthetic. The senses cooperate and fold upon each other, intensively cross-referencing disparate planes of experience. They are neither separate nor discrete. Nor are action and perception; movement and image. The fact remains: No movement, no brain. In *Gesture and Speech*, André Leroi-Gourhan emphasises that humanisation "begins from the feet" more than from the head, since the brain 'profits' from locomotion but does not provoke it.⁵⁶

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KITTEN 1
performing movement

KITTEN 2
undergoing movement

(+) exposed to visual info
(+) active

(+) exposed to visual info.
(-) passive

= 'normal'

= effectively blind

+++++

xiii **The Proof of Enactivism** (R. Held and A. Hein, 1963)

More than three hundred years ago, in a famous letter to the philosopher John Locke, the Irish thinker William Molyneux suggested that a blind man who suddenly regained vision would not be able to tell the difference between a cube and a sphere.⁵⁷ That is to say, the sight and touch can be linked through experience only. The most dramatic proof of this theory came in a rather cruel experiment (by today's standards) published in 1963 by Richard Held and Alan Hein.⁵⁸ [Table xiii] Held and Hein raised two kittens in total darkness. But every

⁵⁵ See: Félix Guattari, "The Best Capitalist Drug" in *Chaosophy*, ed. Sylvère Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 150.

⁵⁶ See: André Leroi-Gourhan, *Gesture and Speech* (Cambridge, MA: MIT, [1964] 1993), p. 229.

⁵⁷ This is in fact the question of whether the perception of space is innate or acquired. Empiricists such as Molyneux, Locke and Barkley answered in the negative. More rationalist philosophers such as Leibniz gave an affirmative answer.

⁵⁸ Richard Held and Alan Hein, "Movement-produced stimulation in the development of visually guided behavior" in *Journal of Comparative and Physiological Psychology* (Vol. 56, No. 5, 1963), pp. 872-876.

so often they would place the kittens in separate baskets, suspend the baskets from a single circular track, and turn on the lights. Both baskets hung just above the floor, but one had holes for the kitten's legs to poke through; the other did not. The free-limbed kitten ran in circles on the floor, pulling the other basket along behind it; the other kitten had no choice but to sit and watch. While, upon release, the active kitten learned to see normally, the passive kitten stayed effectively blind. Physiologically there was nothing wrong with it, but it was not able to judge distances and would bump into obstacles and fall over edges. The same result can be obtained in the case of exposure to the stroboscopic light, which "slices" experience into still images. This discovery simply cannot continue to be ignored by the picture-theory-of-vision inspired architectural research.⁵⁹ Action and perception, movement and image thus form a continuum and cannot be treated separately. The social anthropologist Timothy Ingold offers the following explanation:

[I]t makes no more sense to speak of cognition as the functioning of such a [perceptual] device than it does to speak of locomotion as the product of an internal motor mechanism analogous to the engine of a car. Like locomotion, cognition is the accomplishment of the *whole animal*, it is not accomplished by a mechanism interior to the animal and for which it serves as a vehicle.⁶⁰

According to the champion of enactivism Francisco Varela, these findings support the enactivist view that seeing objects is not the result of a visual extraction of features but a visual guidance of action.⁶¹ Molyneux's hypothesis has recently been confirmed from a neural-cognitive perspective by Shaun Gallagher.⁶² We know now that adults who were born blind and whose neural machinery of vision is repaired remain operationally blind unless and until a new

⁵⁹ It challenges the relevance of not just Gordon Cullen's notion of serial vision, but also the sequence diagrams of Kevin Lynch and the Space Syntax model of Bill Hillier.

⁶⁰ See: Tim Ingold, "Tool-use, sociality and intelligence" in *Tools, language and cognition in human evolution*, ed. K. R. Gibson and T. Ingold (Cambridge UP, 1993), p. 431.

⁶¹ See: Francisco Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT, 1991), pp. 174-175.

⁶² Shaun Gallagher, *How the Body Shapes the Mind* (Oxford: Clarendon, 2006), pp. 153-172. "The question framed by Molyneux has been called the central question of eighteenth-century epistemology and psychology (Cassirer, 1951). Although explicit discussions of the Molyneux problem decreased in number in the nineteenth century, and fell off even more in the twentieth century, the issues that it originally raised continue to be of interest, not only to contemporary philosophers of mind, but to psychologists and cognitive neuroscientists. Indeed, I want to suggest that recent findings in developmental psychology and in neurophysiology [...] have provided the relevant empirical data for answering once and for all the Molyneux question [negatively]."

history of inter-involvements between movement, touch, and object manipulation is synthesised into the synapses of the visual system.⁶³

Indeed, do we not often find ourselves in 'autopilot mode' with no need to rely upon *cognitive* mapping except perhaps for occasional cross-referencing? The revelation requires a radical reversal of movement and space, where movement does not occur *in* space, rather, space becomes a product of movement.⁶⁴ The embodied experience is literally ontogenetic. The ontology of becoming, or ontogenesis, is defined here as the passage from one kind of multiplicity, from the virtual as the bearer of internal difference, to another, the denumerable and classifiable multiplicity of actual beings. The affect, as taken up by Deleuze, is not to be regarded as the passage from one *lived* state to another, but rather as the "nonhuman becoming" of a human.⁶⁵ Likewise, percepts are not perceptions *of* an object: "If they resemble something it is a resemblance produced with their own methods."⁶⁶ One must therefore devise new procedures to free affects from personal feelings, as well as to free percepts from common perceptions.⁶⁷ Gibson's concept of space does not precede perception either and qualifies the geometrical (Newtonian) space as mere abstraction:

The doctrine that we could not perceive the world around us unless we already had the concept of space is nonsense. It is quite the other way around: We could not conceive of empty space unless we could see the ground under our feet and the sky above. Space is a myth, a ghost, a fiction for geometers. All that sounds very strange, no doubt, but I urge the reader to entertain the hypothesis. For if

⁶³ See: William E Connolly, "Materialities of Experience" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), pp. 187-188. "Only about ten percent of the synaptic connections for vision are wired in at birth. The rest emerge from the interplay between body/brain pluripotentiality and the history of intersensory experience."

⁶⁴ Paul Klee wrote in 1920: "In Lessing's *Lakoon*, on which we squandered study time when we were young, much fuss is made about the difference between the arts of time and the arts of space. Yet looking into the matter more closely, we find that all this is but an erudite delusion. For *space, too, is a temporal concept*. When a dot begins to move and becomes a line, this requires time. Likewise, when a moving line produces a plane, and when moving planes produce spaces. Does a pictorial work come into being at one stroke? No, it is constructed bit by bit, just like a house. And the beholder, is he through with the work at one glance? (unfortunately he often is)" Quoted in Kari Jormakka, *Flying Dutchmen: Motion in Architecture* (Basel: Birkhäuser, 2002), p. 6. [emphasis added]

⁶⁵ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p.183. Alluding to the phenomenologist Merleau-Ponty, Deleuze writes: "[T]he being of sensation is not the *flesh* but the compound of nonhuman forces of the cosmos, of man's nonhuman becomings [...]. [emphasis added]

⁶⁶ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), p. 166.

⁶⁷ John Rajchman, *The Deleuze Connections* (Cambridge, MA: MIT, 2000), p. 10.

you agree to abandon the dogma that "percepts without concepts are blind", as Kant put it, a deep theoretical, a genuine quagmire, will dry up.⁶⁸

More recently, Graham Harman, a proponent of the *Object Oriented Ontology* (a version of Speculative Realism), raised the problem of what he calls 'overmining' and 'undermining' objects.⁶⁹ In the former case objects are seen as passive vehicles for signification, whereas in the latter, they are subdued by the supposedly more fundamental level. [Table XIV] Undermining is that operation by which the thinker attempts to dissolve the object in something deeper of which the object is said to be an unreal effect. In distinguishing between forms and appearances (disjunctive couple of Essence/Appearance), Plato employs a strategy of undermining. All the entities and states-of-affairs we see in the world around us are, under Platonism, mere copies of forms deprived of genuine being in their own right. In contrast, overmining is treating the depth of the object itself as a sort of illusion. Thus in phenomenology the thing-in-itself is treated as an illusion of the ego or transcendental subject projecting itself into the experience of the object (conjunctive couple of Conditions/Apparition). Theorists who pursue a critique in the Kantian sense of asserting the limits of discourse, or in the Marxist sense of an ideological unmasking, are also engaged in overmining.⁷⁰ As a matter of fact, any approach that treats objects as mere effects of language, intentions, signifiers, transcendental subjects, economic forces, and so on, constitutes overmining. But if the objects of knowledge are separated from the objects of existence we end up with a duality of the mental and physical which leads to an ontologically indirect perception. "The minimum real unit [instead] is not the word, the idea, the concept or the signifier", explains Deleuze, "but the *assemblage*."⁷¹ A kindred premise of the Ecological School is that perceptual

⁶⁸ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 3. "Outer space can be visualised but cannot be seen. The cues for depth refer only to paintings, nothing more. The visual third dimension is a misapplication of Descartes' notion of three axes for a coordinate system."

⁶⁹ See: Graham Harman, "On the Undermining of Objects: Grant, Bruno and Radical Philosophy" *The Speculative Turn: Continental Materialism and Realism*, ed. Levi Bryant, Nick Srnicek and Graham Harman (Melbourne: re.press, 2011), pp. 21-40.

⁷⁰ See: Félix Guattari, "Everybody Wants to be a Fascist" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 157. "In fact, it is no accident if this neo-Marxist method of thought and action is swamped in bureaucratic practices; this owing to the fact that it has never really disengaged its pseudo dialectic from an obdurate dualism between representation and reality [...] Neo-Marxist thought contaminates by its reductive dualism, its conception of the class struggle, its schematic opposition between the city and the country, its international alliances, its politics of 'the peace camp and the war camp', etc."

⁷¹ See: Gilles Deleuze, "On the Superiority of Anglo-American Literature" in *Dialogues* (New York: Columbia UP, [1977] 1987), p. 51. "The utterance is the product of an assemblage -

systems *resonate* to information. The values and meanings of things in an environment of life forms arise from perceiving what those things provide or offer as *potential* actions or uses to the perceiver, rather than from universally naming and categorising their absolute or objective properties.

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Classicism	Phenomenology	New Materialism
<i>disjunctive couple</i>	<i>conjunctive couple</i>	<i>reciprocal determination</i>
ESSENCE	SENSE	VIRTUAL
vs.	vs.	vs.
APPEARANCE	APPARITION	ACTUAL
undermining	overmining	immanence
+++++		

xiv

Undermining vs. Overmining Traditions: *The minimum real unit is not the word, the idea, the concept or the signifier but the assemblage.*⁷² (G. Deleuze, 1977)

The theory of meaning must avoid the philosophical muddle of assuming fixed classes of objects, each defined by its common features and then given a name (reductionist fallacy). You do not have to classify and label things in order to perceive what they afford (unless your design is bad). In the same vein, Deleuze and Guattari place the emphasis on what they call *affect*, rather than *genus*, as the key factor that differentiates animals, so that: "A race-horse is more different from a work-horse than a work-horse is from an ox." Or in the Spinozist tenor: "(...) *we know nothing about a body until we know what it can do*, in other words, what its affects are, how they can or cannot enter into composition with other

which is always collective, which brings into play within us and outside us populations, multiplicities, territories, becomings, affects, events."

⁷² Gilles Deleuze and Claire Parnet, *Dialogues II* (New York: Columbia UP, 2007), p. 51. See also: Claude Imbert, "Empiricism Unhinged: from Logic of Sense to Logic of Sensation" in *An Introduction to the Philosophy of Gilles Deleuze*, ed. Jean Khalifa (London and New York: Continuum, 2003), p. 134. "Deleuze [...] had to survey this antecedence of sense which localizes, identifies and thereby dismisses the pretensions of the Kantian *a priori*." Cf. Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 105. "It is true that sense is the characteristic discovery of transcendental philosophy and that it replaces the old metaphysical Essences. (Or rather, sense was first discovered in the form of an impassive neutrality by an empirical logic of propositions which had broken away from Aristotelianism. And then for a second time, sense was discovered in the form of genetic productivity by transcendental philosophy which had broken away from metaphysics.)"

affects, with the affects of another body. "⁷³ In order to escape the dualism of the perceiver and the environment, Gibson coined the neologism *affordance*. According to Gibson, what we perceive when we look at objects are not their dimensions and properties, but their affordances. An affordance implies complementarity of the perceiver and the environment. It is "neither an objective property nor a subjective property", and at the same time it is both.⁷⁴ Affordances provide the 'connection' between perception and action (image and movement) because they are perceived, used and adjusted vis-à-vis behaviour.⁷⁵ They exist at that level of organisation which is commensurate with animate life.⁷⁶ Indeed, how else can one account for the universally acclaimed architectural masterpieces whose authors remain utterly ignorant of all the sophisticated theories. Take for example Bernard Rudofsky's *Architecture Without Architects* (1964).⁷⁷ It demonstrates breathtaking architectural ingenuity matching the creativity of nature itself. Gibson would have attributed it to the co-evolution of the life form and its environment. The symmetry between the counterparts - where the beholder *resonates* to the information provided by the environment - has been transposed into the artificial (built) realm. The lesson about the potential risks and opportunities arising from the environment has been learnt and perfected. But on no account does this mean that we ought to take a step back before we go forward. It is not an appeal for regression. It simply means that to speak of affect/affordance is to break with earlier notions of culture as representation or as reflection. It is to break with properties for capacities and, finally, to break with signification for significance. Dare we say, it is to break with overmining and undermining in favour of an ethics of experimentation (good and bad encounters).⁷⁸ In the words of Kwinter: "It is a fundamentally

⁷³ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 283.

⁷⁴ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 129.

⁷⁵ For example, one does not define the chair by its properties, but rather by capacities or 'sit-on-ability'.

⁷⁶ Interestingly enough, web and game designers recognise the power and immediacy of *navigational* rather than *symbolic* order. Unlike architects, they seem to grasp the potential of Gibson's *affordance* (e.g. the protruding convexity of the button affords or even solicits pressing). Moreover, even the flat digital 'windows' surrender to *occlusion*. See: Tael Harper, "The Smooth Spaces of Play: Deleuze and the Emancipative Potential of Games" in *Symplokē* (Vol.17, Nos. 1-2, 2009), pp. 129-142.

⁷⁷ Bernard Rudofsky, *Architecture without Architects: a Short Introduction to Non-pedigreed Architecture* (London: Acad. Ed., 1973).

⁷⁸ Interpreting the death of God from a purely theological perspective undermines its radical implications. What has died is a principle of transcendence that unconditionally grounds the claims of classical epistemology and ontology. See: Paolo Bolanos, "Nietzsche,

bourgeois idea to live the 'critical' life, to assess the value of objects and practices when the processes of production are themselves wild and alive and doing their business semi-independently elsewhere."⁷⁹ It amounts to megalomania. The fault lies, according to Ingold, with understanding production as a number of discrete, finite processes, each with a beginning and an ending: "production, and the meaning of production, must therefore be understood *intransitively*, not as a transitive relation of image to object."⁸⁰ We have yet to shake off the 'bad habit' of representationalism in order to rightfully assert that the culture of hylomorphism (covert idealism) has given way to the life-affirming creative environmental, social and psychic morphogenesis. In the words of Guattari:

While the logic of discursive sets endeavours to completely delimit its objects, the logic of intensities, or eco-logic, is concerned only with the movement and intensity of evolutive processes. Process, which I oppose here to system or to structure, strives to capture existence in the very act of its constitution, definition, and deterritorialization. This process of 'fixing-into-being', relates only to expressive subsets that have broken out of their totalising frame and have begun to work on their own account, overcoming their referential sets and manifesting themselves as their own existential indices, processual lines of flight.⁸¹

2.1.3 Fallacy of Isomorphism

028 **So-Called Depth** Dethroning representationalism won't be easy, as illustrated by the art critic and philosopher Arthur Danto in his response to Gilbert Ryle's contention that there are no such things as mental pictures: "[...] in spite of Ryle's argument that though people are entitled, *façon de parler*, to speak of seeing things in their minds' eyes, this does not count as *proof* that there are mental pictures for them to see there. I shall argue that Ryle's is really a *factual* hypothesis which I, for one, cannot accept, chiefly because I know that there are mental pictures."⁸² A decade later, the art historian and Gibson's close friend

Spinoza, and Ethological Conception of Ethos" in *Minerva - An Internet Journal of Philosophy* (Vol. 11, 2007).

⁷⁹ Sanford Kwinter, "There is no such thing as 'post-critical' (only good and bad criticism)" in *Praxis: Design and Crime Forum* (No. 5, 2003), p. 21. "Soon - indeed, very soon - it [architecture] will come around to the realization that all genesis is social genesis."

⁸⁰ Tim Ingold, "The Architect and the Bee: Reflections on the Work of Animals and Men" in *Man, New Series* (Vol. 18, No. 1, March 1983), p. 15.

⁸¹ Félix Guattari, *The Three Ecologies* (London: Continuum, [1989] 2008), p. 44.

⁸² Arthur C. Danto, "Concerning Mental Pictures" in *The Journal of Philosophy* (Vol. 55, No. 1, 1958), pp. 12-20. Cf. Gilbert Ryle, *The Concept of Mind* (London: Routledge, [1949] 2009), pp. 222-254.

Ernst Gombrich also contested the anti-representational approach. The whole debate that started in the pages of *Leonardo* in 1971 came to be known as the 'Gombrich/Gibson Dispute' (on picture perception).⁸³ In contrast to his friend, Gibson never doubted that pictorial representation was merely a contingent discovery which had nothing to do with the machinism of perception: "The first man to make a mammoth appear on the wall of a cave was, I am confident, amazed by what he had done."⁸⁴ Philosophy might have even begun with that 'puzzle', according to Gibson:

I do agree that there is such a thing as mediated perception but that's now relegated to perception mediated by pictures and images and by talk and writing. Men (only men) have got where we have got by means of the accumulating wisdom of the age, i.e., culture (6000 B.C. libraries; 30.000 years – pictures) and men have been making pictures (in caves) for a long long time and thereby telling other people what the artist has seen but other person has not and when those ancestors of ours went into the caves with their torches and they saw a wall... with a mammoth on the wall of the cave – they were *deeply impressed*... as they should have been. Because the experience/perception of the mammoth on the wall of the cave gave them to think. [...] but this is then *mediated* perception and the *natural* perception is the pickup of information. [...] We perceive events [and not images].⁸⁵

To put it bluntly, it is the Event which comes first, images follow.⁸⁶ [Table xv] Consequently, Gibson thought that a course in 'basic design' with which architects normally begin their training is a setback. It teaches *graphics* on the assumption that an understanding of 'form' is as necessary for architects as it is presumably for painters. But in his opinion no one is ever going to understand 'form'. The use of the term only adds to the confusion. Instead, what architects

⁸³ Gombrich/Gibson Dispute (on picture perception) is accessible from the Gombrich Archive. To our mind it is every bit as topical as when it started in 1971.

<http://gombrich.co.uk/gombrichgibson-dispute/> (accessed May 25, 2011).

⁸⁴ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 275.

⁸⁵ James Jerome Gibson, The Ohio State University lecture "The Ecological Approach to Visual Perception" (May 23, 1974), <http://www.trincoll.edu/depts/ecopsyc/iseip/index.html> (accessed May 25, 2011).

⁸⁶ Gibson stated explicitly that obtaining 'second-hand information' through words, pictures, and writings must be considered a truly mediated perception. He was critical of the term 'space' because of its physics-related overtones. James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), 258-263.

ought to be concerned with is the layout of surfaces.⁸⁷ In stark contrast, Gombrich believed that pictorial representation mirrors the architectonics of the mind: "I believe that in the struggle for existence organisms developed a sense of order not because their environment was generally orderly [sic] but rather because perception requires a *framework against which to plot deviations from regularity*."⁸⁸ [Emphasis added] For Gombrich, sameness (identity) thus becomes a normative template against which difference is to be measured (and tamed). He consequently spends a substantial part of his career trying to account for the depth in the pictorial surface - 'third dimension out of two dimensions' - which was only to be expected given the reversal of primacy between the image and the event. For Deleuze, notoriously, "there is no falser problem in painting than depth and, in particular, perspective."⁸⁹ In Gibson's sensori-motor (kinaesthetic and synaesthetic) understanding of perception, 'the problem of depth' does not arise either:

No one ever saw the world as flat patchwork of colours – no infant, no cataract patient, and not even Bishop Berkley or baron von Helmholtz, who believed firmly that the cues for depth were learned. [...] The child should [on this account] begin by drawing sensations and progress to drawing concepts.⁹⁰

What in fact happens is the opposite. The geometry of information must be kept independent from the geometry of the receptor surface (retina in the case of visual perception). Only then will we resist equating optics with perception which leads to the fallacy of isomorphism of the first order.⁹¹ In *The Origin of the Work of Art* (1935), Martin Heidegger posed the riddle of perception as thus: "in the appearing of things, never do we, either preliminarily or essentially, perceive an onrush of sensations."⁹² It is simply non-sense to talk of form of perception. *For any given form there exists an infinite set of possible objects in space.* More

⁸⁷ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 415.

⁸⁸ Ernst Gombrich, *The Sense of Order; A Study in the Psychology of Decorative Art*. (Oxford: Phaidon, 1979), p. xii.

⁸⁹ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), 298.

⁹⁰ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 286-287.

⁹¹ Arguably, it is for the same reason that Goethe contested Newton's theory of colour. The problem of colours had occupied Goethe since 1791. His work *Theory of Colours* appeared in 1810. For a contemporary account of colour perception see Beau Lotto's work. <http://www.lottolab.org/> (accessed May 25, 2011).

⁹² See: Martin Heidegger, "The Origin of the Work of Art," in *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper and Row, 1971), pp. 17-87.

generally, this fallacy is committed by every theory that posits the existence of a one-to-one correspondence between mental (neural) representations and the environmental states of affairs. This is what distinguishes the *ecological* school as *discriminational* empiricism from its associational counterpart. The efforts made by philosophers and psychologists to clarify what is meant by *representation* have failed, according to Gibson, because the concept is utterly wrong: "A picture is not an imitation of past seeing. It is not a substitute for going back and looking again. What records, registers, or consolidates is *non-denumerable* information, not sense data."⁹³ Sensations do not carry information and memories are not snapshots stored as representations. What one does experience *directly* is the temporally sustained invariant properties of a *process* (persistence over change) and not the retrospective object of a frozen past moment ('memory'). Indeed, children make drawings of 'concepts' rather than sensations because they cannot do otherwise. According to Gibson, it is safe to suggest that "men had not paid attention to the perspectives of things until they learned to draw and perceive by means of drawings. Before that time they needed only to detect the specifying invariants of things that differentiated them – their distinctive features, not their momentary aspects or frozen projections. Young children are also, I think, not aware of aspects of forms as such until they begin to notice pictures as surfaces. We look *into* pictures."⁹⁴

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 2D (image) + 1D (inference) ≠ 3D perception
 ++++

xv

Gibson's Debunking of Mentalism: *Being intellectually lazy, we try to understand perception in the same way we understand communication, in terms of the familiar.*⁹⁵
 (J.J. Gibson, 1979)

029 **Capacitation** Deleuze was well aware of the ongoing dispute: "[D]epending on the concept itself the limits can be conceived in two ways, mathematically or dynamically: either as preliminary to the existence of the bodies whose essence they fix, or going as far as the power of existing bodies goes. For ancient philosophy, this was one of the principal features of the opposition between the

⁹³ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 279-281.

⁹⁴ James Jerome Gibson, "On the Concept of Formless Invariants in Visual Perception", 1973 (working notes for a book to be entitled *An Ecological Approach to Visual Perception*). See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 286.

⁹⁵ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 63.

Platonists and the Stoics."⁹⁶ This is why even the isomorphism of the second order –as exemplified by Gestalt in psychology or Structuralism in linguistics - will not suffice.⁹⁷ Not even Connectionism as the alternative to Symbolic AI is immune to it.⁹⁸ More generally, the fallacy of isomorphism of the second order is committed by any theory that proposes isomorphism not between entities (first order) but between structures or 'laws'.⁹⁹ They simply stay too close to tradition by their fixation on the end-state and by trying to explain away stability rather than change.¹⁰⁰ Cognitive theories that depend on association, or 'matching' the inner structure of the object with the structure that the beholder supposedly forms in the mind, are just not abstract enough. Or, to be more precise, they are not abstract in a concrete way. We were taught a worthy lesson that the whole is often greater than the sum of its parts, but nonetheless the isomorphism of the second order failed to account for novelty. The Stoic legacy, on the other hand, requires abstraction of an even higher order, of the kind which Deleuze and

⁹⁶ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 13.

⁹⁷ Gibson is critical of the Gestalt theory hypothesis that individual sensory elements are *grouped* or made to *cohere* in the process of perception based on the axiom that sensations are the necessary basis of perception: "If it were not for the process of organisation, the individual sensations of motion would [supposedly] yield individual perceptions of object motion in the frontal plane. [...] But there is another theoretical possibility, namely, that an optical transformation that is *already coherent* does not have to be *made* coherent in the process of perception; it is simply picked up." See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 174. Similarly, structuralism - which originates in the work of the Swiss linguist Ferdinand de Saussure - puts forward an image of thought as the expression of *pre-given* social structures.

⁹⁸ It is not sufficient to get a symbol like behaviour without symbols. For a difference between traditional, connectionist and dynamic systems theories see: Esther Thelen and Linda B. Smith, *A Dynamic Systems Approach to the Development of Cognition and Action* (Cambridge, MA: MIT Press, 1994), pp. 42-43.

⁹⁹ The thesis of the First (and Second) Order Isomorphism Fallacy (FOIF) is developed by Shaw. Shaw takes Gibson's affordances to be an isomorphism of the third order and proposes ecosystems as isomorphisms of the fourth order. See: Robert Shaw, "The Agent-Environment Interface: Simon's Indirect or Gibson's Direct Coupling?" in *Ecological Psychology* (No. 15(1), 2003), pp. 37–106.

¹⁰⁰ For architectural implications of this fallacy see: Jesse Reiser and Nanako Umemoto, *Atlas of novel Tectonics* (New York: Princeton Architectural Press, 2006), p. 173. "*A meaning-based practice actually stops process because it is judgmental*, concerned with stability rather than unfolding, and relies on outside semantic [and syntactic] criteria that are generally separate from material processes. An architecture that has to explain, or be explained, has failed to present its own qualities. It sets up a conventional relationship between material organization and reference." [emphasis added]

Gibson theorise through their concepts of *affect* and *affordance*, respectively.¹⁰¹
Hence, Gibson:

All these facts about moving bodies and about the transmission of light, sound, and odour in a medium are *consistent* with physics, mechanics, optics, acoustics, and chemistry, but they are facts of higher order that have never been made explicit by those sciences and have gone unrecognised. The science of the environment has its own facts.¹⁰²

A power to affect and be affected, as Brian Massumi explains in a recent interview, governs the transition of a body across different states of *capacitation* (either diminished or augmented).¹⁰³ This is especially pertinent to the discipline of architecture, given that its basic medium is *ipso facto* a 'field of experience,' rather than any formalisable field, and as such immune to either reductionism and/or representationalism. Experience is never *of* something, rather it *is* something and as such irreducible to what we call lived experience. The main consequence of such a revelation, according to Evans, is that goal-oriented human action cannot in any serious way be used as a design criterion because "freedom of action is never a *de facto* established condition but always a nascent possibility."¹⁰⁴ The discovery sheds new light on the role of (architectural) theory. It is very likely that the turn towards theory in the early modern period was a symptom of crisis rather than progress. Perhaps, as Mari Hvattum asserts, it was an epistemological refuge in a world that was proving too messy: "the 'quest for certainty' implicit in the enlightenment project - far from a fruit of reason and

¹⁰¹ Deleuze acknowledges a Stoic influence both in his early *The Logic of Sense* (1969) and later in *A Thousand Plateaus* (1980), co-written with Guattari.

¹⁰² James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 17-18. "The medium is not isotropic [...] Hence it is that a medium has an *absolute* axis of reference, the vertical axis." See also: Geoffrey Scott, *The Architecture of Humanism* (New York: W.W. Norton, [1914] 1974), p. 95. "Structure, then, is on the one hand, the technique by which the art of architecture is made possible; and, on the other hand, it is part of its artistic content. But in the first case it is subject to mechanical laws purely, in the second, to psychological laws. *This double function, or double significance, of structure is the cause of our confusion.* For the aesthetic efficacy of structure does not develop or vary *pari passu* with structural technique. They stand in relation to one another, but not in a fixed relation. Some structural expedients, though valid technically, are not valid aesthetically, and vice versa. [emphasis added]"

¹⁰³ Spinozian definition of affect is explained in the interview with Brian Massumi, "Of Microperception and Micropolitics" in *Inflexions: Micropolitics: Exploring Ethico-Aesthetics* (No. 3. 2009), pp. 1-2.

¹⁰⁴ Robin Evans, "Interference" in *Translation from Drawing to Buildings* (London: AA Documents 2, 2003), pp. 16-17.

emancipation - is a desperate rescue operation in the face of a deep cultural rupture.¹⁰⁵ On the other hand, PoMo's frivolous embracing of diversity after the tyranny of Modernist linearity (e.g. the maxim 'Form follows Function') was perhaps unavoidable.¹⁰⁶ However, it was not long before we realised that anything does not go either, or at least - as the art historian Heinrich Wölfflin put it - "Not everything is possible at all times."¹⁰⁷ We learned that chaos does not equal randomness; that in fact it is not as chaotic as we thought.¹⁰⁸ We also learned that diversity is not the same as difference.¹⁰⁹ Rather, it is "the difference that makes a difference" which matters, to quote Gregory Bateson. What matters,

¹⁰⁵ Mari Hvattum, "The Limits of Theory" in *M29* (Vol. 1, 2002), pp. 39-44. "If 'history' was the mantra for 19th century thinking, then 'theory' would become its 20th century equivalent."

¹⁰⁶ One only needs to recall the heated debate over an 'appropriate shape for the window' [sic]. In 1923, Perret had a dispute with Le Corbusier about the window as such. Perret rejected the horizontal strip window of the modernists, and insisted on the deep cultural significance of the vertical window. The vertical window, he argued, is like the upright human being. According to this view, the French window opens up the interior towards the outside world, and as it is a window to the world, the inhabitant can freely chose whether to close or open it. By contrast, the horizontal strip window brings the world constantly into the interior, which Perret found overwhelming. Le Corbusier argued in favour of the horizontal window not only for bringing the light more sufficiently to the interior but also for its significant anthropomorphic justification related to the horizontally scanning eye. See: Bruno Reichlin, "The Pros and Cons of the Horizontal Window; The Perret – Le Corbusier Controversy" in *Daidalos* 13, (1984), pp. 65-78.

¹⁰⁷ Heinrich Wölfflin, *Principles of Art History: The Problem of the Development of Style in Later Art* (London: Bell, 1932), pp. ix, 11. According to Wölfflin one sees forms as immediately charged with expressive qualities (*Einführung*). See also Wölfflin's dissertation, (1886) *Prolegomena to a Psychology of Architecture (Prolegomena zu einer Psychologie der Architektur)* where he asks the question of "How is it possible that architectural forms are able to express an emotion or mood?"

¹⁰⁸ "At the risk of oversimplification, I sometimes like to suggest the difference between chaos and randomness by comparing the behavior of commuters dashing through a train station at rush hour with the behavior of a large, terrified crowd. The activity of the commuters resembles chaos in that although an observer unfamiliar with train stations might think people were running every which way without reason, order does underlie the surface complexity: everyone is hurrying to catch a specific train. The traffic flow could rapidly be changed simply by announcing a track change. In contrast, mass hysteria is random. No simple announcement would make a large mob become cooperative." See: Walter Freeman, "The Physiology of Perception" in *Scientific American* (Vol. 264 (2), 1991), pp. 78-85.

¹⁰⁹ Referring to *negative* differences (lack of similarity) as diversity, Deleuze writes: "Difference is not diversity. Diversity is given, but difference is that by which the given is given [...] Difference is not phenomenon but the nuomenon closest to the phenomenon [...] Every phenomenon refers to an inequality by which it is conditioned [...] Everything which happens and everything which appears is correlated with orders of differences: differences of level, temperature, pressure, tension, potential, difference of intensity." See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 222.

both metaphorically and literally, is the realm of intensity. In the age of ubiquitous computing, Gibson's advice from 1966 seems more pertinent than ever. Learning, he said, becomes the education of attention.¹¹⁰ For those who still wonder as to what we should pay attention to, Deleuze provides the following hint: To learn is to constitute the space of an encounter with signs.¹¹¹ This is what architects do. More or less.

2.1.4 Encounter

030 **Affects and Percepts** This is how the architect Farshid Moussavi of the FOA contemplates the implications of the Affective Turn in architecture: "Affect, according to Deleuze, is distinct from affection. Affection, such as feeling, emotion or mood, relates to the status of the body caused by the *encounter*. Since affection has to be enveloped by the human body, it is subject to personal, biographical or social mediation (we do not know what meaning is being created in each individual). An affect, on the other hand, is a matter of *intensity*."¹¹² Affections are *endogenous*, whereas affect is impersonal or pre-individual and unmediated (exogenous), and can therefore generate different affections in different people.¹¹³ For this reason, as Moussavi concludes, architects need to focus on affect (affordance), rather than meaning. This is not because meanings are irrelevant, rather because they are not produced by architects but by individuals themselves. They are private. Paradoxically, feelings (affections, not affects) are states produced by thought, while thoughts are produced by affects.¹¹⁴

¹¹⁰ Gibson's novices are 'tuned up', rather than 'filled up'. See: Tim Ingold, "From the transmission of representations to the education of attention", in *The debated mind: evolutionary psychology versus ethnography*, ed. H. Whitehouse (Oxford: Berg, 2001), pp. 113-153.

¹¹¹ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 23.

¹¹² Farshid Moussavi and Daniel López, *The Function of Form* (Barcelona: Actar, 2009).

¹¹³ Steven Shaviro in his "Simondon on Individuation" draws attention to Simondon's theory of becoming that influenced Deleuze: "The individual, as (continually) produced in a process of individuation, is never an isolated Self. It is always coupled or coordinated with a milieu; the individual can only be understood together with its milieu, and cannot subsist as a unity without it. The contact between individual and milieu is mediated by *affect*. Affectivity comes in between inside and outside, just as it comes in between sensation and action. Just as sensation gets oriented along a series of gradients in order to become perception, so (unconscious or preconscious) affect gets oriented along a series of processes of becoming in order to become (conscious) emotion." <http://www.shaviro.com/Blog/?p=471> (accessed May 25, 2011).

¹¹⁴ See: Teresa Brennan, "The Education of Senses" in *The Transmission of Affect* (Ithaca and London: Cornell UP, 2004), p. 116. "Feelings are thoughtful, and affects are thoughtless. Feelings are meant to be information about whether a state is pleasurable or

Again, this view is popularly rendered by William James: "crying makes us sad." Architects, therefore, produce nothing but *affordances* or the way of affecting. They *distribute the sensible*. A parallel with music is helpful. While we might be exposed to the same piece of music, it will inevitably reach each of us in different ways. Similarly, architecture affects without determining any meanings *a priori*. It neither demands nor precludes any consensus.¹¹⁵ This is how the film director Stanley Kubrick sees the affective role of film:

2001 is a non-verbal experience; one that bypasses verbalised pigeonholing and directly penetrates the subconscious with an emotional and philosophical content. To convolute [Marshall] McLuhan, in 2001 the message is the medium. I intended the film to be an intensely subjective experience that reaches the viewer at an inner level of consciousness [...]. You're free to speculate as you wish about the philosophical and allegorical meaning of the film - and such speculation is one indication that it has succeeded in gripping the audience at a deep level - but I don't want to spell out a verbal road map for 2001 that every viewer will feel obliged to pursue or else fear he's missed the point.¹¹⁶

Indeed, if we ever stopped to consider how much of our life is controlled by cognitive processes and how much by affect/affordance, and how much they influence important decisions, we would certainly pay far more attention to the affective phenomena.¹¹⁷

2.2 The Architect Who Mistook His File for a Hut

2.2.1 Meta-Medium

031 **Universal Machine** "Architects don't make buildings", as the architectural theorist Robin Evans rightfully insists; "they make drawings and models of buildings."¹¹⁸ It is no trivial matter. Unlike dancers or classical sculptors,

painful, whether one is attracted to something or averse to it. This is the classic and only basis for distinguishing feelings and affects."

¹¹⁵ Panagia underscores the twofold nature of Ranciere's *partage du sensible* (variously translated as 'partition' or 'distribution' of the sensible). It refers at once to the conditions for sharing that establish the contours of a collectivity (*'partager'* as sharing), and to the sources of disruption or dissensus of that same order (*'partager'* as separating). See: Davide Panagia, "*Partage du sensible: the distribution of the sensible*" in *Jacques Rancière: Key Concepts*, ed. Jean-Philippe Deranty (Durham: Acumen, 2010), pp. 95-103.

¹¹⁶ Stanley Kubrick, "Interview by Eric Nordern" in *Playboy* (September 1968).

¹¹⁷ Robert B. Zajonc, "Feeling and Thinking: Preferences Need No Inferences" in *American Psychologist* (Vol. 35, No. 2, 1980), pp. 151-175.

¹¹⁸ Stan Allen: *Practice: Architecture, Technique & Representation* (Amsterdam: Gordon & Breach, 2000), p. 1.

architects are forced to accept a mediated way of engagement with the subject-matter. Nowadays, the act of mediation is almost always accomplished by the computer or the 'universal machine' which, according to the media theorist Lev Manovich, has become an ultimate *meta-medium*.¹¹⁹ In other words, all contemporary architecture is digitally driven by default.¹²⁰ So is almost any other artefact, including this thesis that the author is typing away on his computer. But what is it that makes this Digital Turn so appealing?¹²¹ A hint might be found in the media philosopher Vilém Flusser's contemplation of the 'cascading' between the concrete and abstract or the sensible and intelligible:

First we have left a four-dimensional *Lebenswelt*, and we stepped into culture, which produces manufactured objects in three-dimensions. Then we stepped back into the imagination, to make images of objects. Then we stepped back from imagination into contextual texts, and texts are to images what images are to objects. Then we stepped back from description and culture and conception into calculation. Into zero-dimension. And I think that numbers are to texts what texts are to images, and what images are to objects. So that we have come to absolute abstraction: nothing is describable any longer, nothing is concept, can be conceptive, nothing can be imagined. And now we can take the numbers, we can take the bytes, and we can compute them and project them back and make alternative roads.¹²²

¹¹⁹ Lev Manovich, *The Language of New Media* (Cambridge, Massachusetts and London, England: MIT Press, 2001), p. 6.

¹²⁰ See: Lars Spuybroek, "Experience, Tectonics and Continuity" in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 29. "I think digitization is as inevitable as the Renaissance was after the tools of perspective, as modernism was after movies and trains, as postmodernism was after cars and television – but we must theorize digitization at the most fundamental levels of architecture, at the levels where we can start to repair the rift between the materiality of tectonic structure and the sensuousness of human experience."

¹²¹ For the account of 'Parametricism' see Patrik Schumacher, "The Parametricist Epoch: Let the Style Wars Begin" in *AJ - The Architects' Journal* (No. 16, Vol. 231, 2010). "All the elements of architecture have become parametrically malleable [sic]." The forerunner of the parametric approach is the Italian architect Luigi Moretti with his proposition of *Architettura Parametrica* in the 1940s and 1950s that aims for the integration of parametric equations and architectural design, as means of producing performance-driven form.

¹²² Vilém Flusser, in an interview by Miklós Peternák (unpublished, 1988), <http://www.c3.hu/events/97/flusser/participantstext/miklos-interview.html> (accessed May 25, 2011). See also: Vilém Flusser, *Into the Universe of technical Images*, (Minneapolis: Minnesota UP, 2011).

2.2.2 From *Lebenswelt* to Zero-dimension (DG)

032 **Counter-Actualisation** To find the 'fundamental building block' has always been a reductionist's wet dream.¹²³ Despite the doubtful (epistemological and ontological) assumptions underlying his position, Flusser's attempt to escape representationalism is praiseworthy. Indeed, Flusser touches upon the problem of creation, of the genuine new, with his process of gradual counteractualisation followed by an (alternative) individuation through a 'symmetry breaking' cascade (in the opposite direction from the zero dimension *back* to the fourfold).¹²⁴ The idea is to somehow invert the sequence - objects > images > texts > numbers - in order to create alternatives. Indeed, the crucial question is how does one 'make alternative roads' without stumbling upon the 'I' or the ego?¹²⁵ To paraphrase painter Francis Bacon, the canvas is never *blank*, you only wish it were.¹²⁶ On the contrary, it is always already saturated with clichés and nothing but clichés. Rather than being blank it is perhaps closer to Kazimir Malevich's fully saturated *black* canvas from 1915, by many accounts the most important painting of the twentieth century.

033 **Reactionary Un-Forgetting and Un-Recalling** There have been similar attempts at circumventing stereotypes. Terry Eagleton credits Russian Formalist Viktor Shklovsky with developing a revolutionary strategy of defamiliarisation (остранение) to escape any form of essentialism.¹²⁷ It is meant to make possible a gratuitous *encounter* as an event in contrast to mere re-cognition of an object. In the words of Shklovsky:

¹²³ The 'reductionist' label applies to all its guises from the ancient atomistic to the contemporary quantum, informational, DNA, including the most recent - neural.

¹²⁴ According to Lynn, 'symmetry breaking' could indicate the incorporation of information into a system from the outside. His thesis is that novelty is the organiser of symmetry rather than vice versa. "[William] Bateson's insight, that was inherited by his son Gregory, was that a loss of information leads toward symmetry. [...] This insight equates difference with information." See: Greg Lynn, "The Renewed Novelty of Symmetry: Cardiff Bay Opera House Competition Project" in *Assemblage* (No. 26, 1995), p. 11.

¹²⁵ Deleuze's solution is to 'descend' to the unconscious of thought: "The idea of a differential of consciousness, at that point the 'I think' of consciousness must bathe in an unconscious." Gilles Deleuze, *Cours Vincennes*; "Deleuze/Leibniz" (May 20, 1980) <http://www.webdeleuze.com/php/texte.php?cle=130&groupe=Leibniz&langue=2> (accessed May 25, 2011).

¹²⁶ Gilles Deleuze, *Francis Bacon: The Logic of Sensation* (London and New York: Continuum, [1981] 2003), p. 61.

¹²⁷ Terry Eagleton, *Literary Theory; An Introduction* (Oxford: Blackwell, 1983), p. ix. "If one wanted to put a date on the beginnings of the transformation which has overtaken literary theory in this century, one could do worse than settle on 1917, the year in which the young Russian Formalist Viktor Shklovsky published his pioneering essay *Art as Device*."

The purpose of art is to impart the sensation of things as they are perceived and not as they are known. The technique of art is to make objects 'unfamiliar', to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged. Art is a way of experiencing the artfulness of an object; the object is not important.¹²⁸

But a century on, even this project seems to have run out of steam. Defamiliarisation is de-familiarisation after all, the same way that Postmodernism was post-modern or Deconstructivism de-constructive. They are all reactionary, working through opposition and contradiction rather than in an affirmative mode. Sadly, there seems to be no avant-garde that is not only enabled but also contained by what it opposes.¹²⁹ Moreover, it often succumbs to the vitalist fallacy of "we have to see the world again as for the first time" or viewing the same once again as same for the first time.¹³⁰ In other words, the main premise seems to be that we ought to take one step back in order to go two steps forward. Does this mean that the only way to avoid stereotyping is to stick to Bernard Cache's tongue-in-cheek advice to "hope for a happy accident"? Perhaps so, but Flusser seems to be onto something completely different with his change of register from the molar (objects) to the molecular (relations) and back. It might not be an exaggeration to claim that this is a daring attempt to cut the (in)famous Menoian knot:

Meno: But how will you look for something when you don't in the least know what it is? How on earth are you going to set up something you don't know as the object of your search? To put it another way, even if you come right up against it, how will you know that what you have found is the thing you didn't know?

Socrates: I know what you mean. Do you realize that what you are bringing up is the trick argument that a man cannot try to discover either what he knows or what he does not know? He would not seek what he knows, for since he knows it there is no need of the inquiry, nor what he does not know, for in that case he does not even know what he is to look for.¹³¹

¹²⁸ Viktor Shklovsky, "Art as Technique [Device alternatively]" in *Literary Theory: An Anthology*, ed. Julie Rivkin and Michael Ryan (Malden: Blackwell Publishing, [1917] 1998).

¹²⁹ See: Michael K. Hays, *Architecture's Desire: Reading the Late Avant-garde* (Cambridge, MA: MIT, 2010), p. 138.

¹³⁰ See: Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010), p.43. Cf. Viktor Shklovsky, "Art as Technique" in *Literary Theory: An Anthology*, ed. Julie Rivkin and Michael Ryan (Malden: Blackwell Publishing, [1917] 1998).

¹³¹ Plato's *Meno* is a Socratic dialogue in which the two main speakers, Socrates and Meno, discuss human virtue.

In response to the impasse, Socrates developed the theory of *anamnesis* or literally the loss of forgetfulness. It is based on the belief that the soul is immortal and repeatedly incarnated. Knowledge thus resides in the soul eternally, but each time the soul is incarnated its knowledge is forgotten through the shock of birth. In that sense learning is actually the recovery of what has been forgotten. Socrates and Plato see their role not as teachers, but as midwives, helping with the birth of knowledge that was already present in the student. In stark contrast to this Platonic 'royal' approach, Flusser, the Czech-born, Brazilian-naturalised, German-speaking Jew, was an exemplary proponent of the Deleuzian 'minor' tradition.¹³² His unscrupulous affirmative pro-technological attitude is unique for it reaches beyond the all-too-human *unforgetting* and *unrecalling* (anamnesis and defamiliarisation). Flusser's solution was to plunge into the a-subjective and proto-individual field of what he calls 'zero-dimension', his own version of Body without Organs.

034 **Reductionism** Unfortunately, Flusser himself eventually falls prey to the problem of *informationalism*. According to this contemporary version of reductionism, a bit/byte of information is believed to be the basic building block of the Universe. It is *hylomorphic*, in the sense that it disregards the morphogenetic capacity of matter by rendering it utterly subordinate to the code. By extension, the implicit hierarchy makes the approach *axiomatic*. Flusser was not prepared to grant equal (ontological) standing to - not only the most abstract and the most concrete - but also all the *in-betweens*, i.e. texts, images, objects. He was not ready to embrace either the univocity of being or the *reciprocal* determination between the *actual* and *virtual*.¹³³ Despite all of Flusser's ingenuity, the age-old dualism sneaked in through the back door.¹³⁴ Catherine Hayles believes that the resilience of body-mind dualism can be explained by the pathological fear of death.¹³⁵ The promise of *software* transcendence at the expense of *hardware* transience has been irresistible even to some of the greatest

¹³² Gilles Deleuze and Félix Guattari, *Kafka: Toward a Minor Literature* (Minneapolis: Minnesota UP, [1975] 2008).

¹³³ The flat ontology of Gilles Deleuze is addressed by Manuel DeLanda: *Intensive Science and Virtual Topology* (London and New York: Continuum, 2002).

¹³⁴ See: Vilém Flusser, "Crisis of Linearity" in *Absolute Vilém Flusser*, ed. Nils Röller and Silvia Wagnermaier (Freiburg: orange-press, 2003). "How differently are we present when we emerge from the Heraclitian flux ['linear thought'] to step into the Democritian rain ['dot-interval thinking']. It is obviously true that it is possible to reduce both sides to each other: to see a thin river in the rain, or a river in dense rain. [...] But with this the radical break in the disposition is not eliminated."

¹³⁵ Katherine Hayles, "Spatialization of Time and Temporal Diversities; The Transforming Power of Digital Technologies" Delft School of Design Lecture (November 19, 2008).

minds. An early loss of lover allegedly pushed the computer guru Alan Turing to embrace it unequivocally. It is thus the dualism of the immortal *soul* and finite *body* that unites, against all odds, the most unlikely of partners: the Cartesians and Cybernetics.¹³⁶

035 **Xenoarchitecture** So we are back to square one. Let us turn to architecture proper. What is regarded as the 'progressive' attitude at the moment boils down to either the defamiliarised (yet all-too-familiar) typologies, or the new unfamiliar *xenoarchitecture* (bio-mimicry). The urge to escape essentialism has been pursued either by the simulation of indeterminacy (against the "pernicious totalising order"), or by the unapologetic (methodological) solipsism.¹³⁷ The former strategy that proceeds from the Whole - only to do everything in its power to conceal the *Ur-form* later - is as reactive as any de-formation. The latter strategy seems more truthful to its proclaimed ambition of escaping anthropocentrism. Nevertheless, the price to be paid remains high because of the self-imposed requirement that all the relations to any real-world objects should be suspended. Accordingly, if we are to understand information systems we have to turn away from hardware and the world in which hardware is embedded and study manipulations of syntactic strings. Indeed, according to one of the main proponents of the so-called biomimetic architecture, Karl Chu, there are two divergent trends within the digital design itself: *morphodynamic* and *morphogenetic*.¹³⁸ These two systems are, by his account, reminiscent of a

¹³⁶ Hubert Dreyfus argued that, had the AI community ever read Merleau-Ponty, they would not have wasted as much time on the unattainable symbolic approach. In the subsequent reprint, his *What Computers Can't Do* was renamed: *What Computers STILL Can't Do*. The symbolic computing is being gradually superseded by the connectionist approach where the bottom-up training plays a major role. See: Hubert Dreyfus, *What Computers Can't Do* (Cambridge, Massachusetts and London, England: The MIT Press, 1972), *What Computers Still Can't Do* (1992). Alva Nöe's recent book reiterates some of Dreyfus' basic arguments and could be seen as a natural sequence (What Computers Will Never Do?): Alva Nöe, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness* (New York: Farrar, Straus and Giroux, 2009).

¹³⁷ "In the age of computers as boxes there arose the doctrine of methodological solipsism - also sometimes called 'cognitivism' or 'representationalism' - a doctrine that is commonly associated with the name of [J.A.] Fodor. In order to understand a mind, on this doctrine - that is, in order to establish in scientific fashion the laws governing mental process - you need to abstract away from all relations to any real-world objects toward which these mental processes might be directed. See: Barry Smith, "The Ecological Approach to Information Processing" in *Mobile Learning: Essays on Philosophy, Psychology and Education*, ed. Kristof Nyri (Vienna: Passagen, 2003), p. 18.

¹³⁸ Please note that we use the term *morphogenesis* as an umbrella-term which includes both morphogenesis and morphodynamics of Chu. It signifies an alternative to the hylomorphic tradition.

strikingly similar problem that exists in modern biology, which strives to synthesise the differences that exist between developmental biology on the one hand, and molecular biology on the other. To put it bluntly, the former is phenotypical and exogenous whereas the latter is genotypical and endogenous.¹³⁹ Chu is critical of the currently dominating morphodynamic approach for being too embedded within the general economy of forces, or the 'real'.¹⁴⁰ What his preferred alternative has to offer is a kind of autonomy from contextual contamination:

Contrary to Mies Van de Rohe's oft-quoted remark that architecture is the art of putting two bricks together, the emerging conception is that architecture is the art of putting two bits together, at least bits that are programmed to self-replicate, self-organise and self-synthesise into ever new constellations of emergent relations and ensembles.¹⁴¹

The plea for (molar) *autonomy* guaranteed by (molecular) synthesis is in a way germane to Michael Hays' plea for reintroducing "the most important operative concept of the theory of architecture." But in contrast to Hays' ethics of moderation calling for architecture to maintain equidistance between Culture and

¹³⁹ *Genotype*: set of genes in any one individual. *Phenotype*: concrete features of the individual (anatomy, physiology, behaviour). *Exogeneous*: the infolding of external constraints toward adaptability. *Endogeneous*: the unfolding of unmotivated internal directives toward diversity.

¹⁴⁰ It is interesting to contrast this attitude with Lynn's: "Symmetry, and any exact form for that matter, indicates a lack of order due to a lack of interaction with larger forces and environments. Deep structure and typology are just what they seem to be; suspect, reductive, empty and bankrupt." See Greg Lynn, "The Renewed Novelty of Symmetry" in *Assemblage* (Vol. 26, April 1995), pp. 11-15.

¹⁴¹ Karl Chu, "Metaphysics of Genetic Architecture and Computation" in *AD: Programming Cultures; Art and Architecture in the Age of Software*. (No. 76(4), 2006), pp. 38-45. "Architects take note: this is the beginning of the demise, if not the displacement, of the reign of anthropology, which, for obvious reasons, has subsumed architecture. Architecture, especially from the standpoint of its mythical inception, has always been a subset of anthropology: the expulsion of Minotaur, the beast, by entrapping it into the labyrinth built by Daedalus, the mythical architect at Knossos. The potential emancipation of architecture from anthropology, as naïve and terrifying as it may sound, is already affording us to think for the first time of a new kind of *xenoarchitecture: an information labyrinth or, better still, a universal matrix that is self-generating and self-organizing with its own autonomy and will to being - the eternal return of the triumphant beast within which we are all implicated in*. In order to break through the barrier of complacency and self-imposed ignorance on the part of the discipline, what is needed is a radicalization of the prevailing paradigm of architecture by developing a new utopic conception beyond retroactive manifestoes that is adequate to the demands imposed by the convergence of computation and biogenetics." [emphasis added]

Form (neither fully complacent nor fully autonomous), Chu advocates a radical break with both disciplinary and formal constraints.¹⁴² This is all very well provided that - as (all too) readily presupposed - bricks can indeed be replaced by (the less substantial yet more fundamental) bits.¹⁴³ Not to mention the belief, recently voiced by Hal Foster, that formal articulation requires resistant material, structure or context without which "architecture quickly becomes arbitrary or self-indulgent."¹⁴⁴ Despite their difference (either in degree or kind), the old conventional and new "digital tectonics" share the fixation on the structural rather than aesthetic concerns in the most general terms.¹⁴⁵ From a structural point of view, aesthetics is often belittled for its alleged lack of determinacy or lack of determinability in general. But a crucial question has remained unanswered ever since the German art historian August Schmarsow raised the following concern a century ago:

¹⁴² According to Hays, architecture is torn between two positions: either as an instrument of culture (epiphenomenon) or as an autonomous form. He thus advocates a 'third position' in which architecture is independent of both, hence "between culture and form". See: Michael K. Hays, "Critical Architecture Between Culture and Form" in *Perspecta* (No. 21, 1981), pp. 14-29.

¹⁴³ Architectural theorist Neil Leach is among the most prominent advocates of 'digital tectonics'. See: Neil Leach, "Digital Morphogenesis" in *Architectural Design*, 79. "Within contemporary architectural design, a significant shift in emphasis can be detected – a move away from an architecture based on purely visual concerns towards an architecture justified by its performance. Structural, constructional, economic, environmental and other parameters that were once secondary concerns have become primary – are now being embraced as positive inputs within the design process from the outset. Architecture, it would seem, is no longer so preoccupied with style and appearance. It is as though a new paradigm has emerged."

¹⁴⁴ Hal Foster, "Design and Crime" in *Praxis* (No. 5, 2003), p. 14.

¹⁴⁵ A quote by Mies reveals his teleological leaning: "It then became clear to me that it was not the task of architecture to invent form. I tried to understand what that task was. I asked Peter Behrens, but he could not give me an answer. He did not ask that question. The others said, "What we build is architecture", but we weren't satisfied with this answer [...] since we knew that it was a question of truth, we tried to find out what truth really was. We were very delighted to find a definition of truth by St Thomas Aquinas: '*Adequatio intellectus et rei*' [...] The idea of a clear construction came to me [...], as one of the fundamentals we should accept. We can talk about that easily but to do it is not easy. It is very difficult to stick to this fundamental construction, and then to elevate it to a structure. I must make it clear that in the English language you call everything structure. In Europe we don't. We call a shack a shack and not a structure. By structure we have a philosophical idea. The structure is the whole from top to bottom, to the last detail - with the same ideas. That is what we call structure." See: Mies van der Rohe quoted by Peter Carter in *Architectural Design*, March 1961; from Kenneth Frampton, *Modern Architecture, A Critical History* (New York: Oxford UP, 1980), p. 161.

Do the massive pile of purposely hewn stone, the well-jointed beams, and the securely arched vaults constitute the architectural work of art, or does the work of art come into being only in that instant when human aesthetic reflection begins to transpose itself into the whole and to understand and appreciate all parts with a pure and free vision?¹⁴⁶

Some have gone as far as to claim that aesthetics "serves to hide the absence of knowledge."¹⁴⁷ The most notorious of purist formulae remains the one issued by Adolf Loos in his *Ornament and Crime* (1908).¹⁴⁸ Sadly, this sentiment has not been purged from contemporary discourse either. Instead of treating aesthetics in terms of relation (perception event) it is reified as a mere *accessoire*. According to Kipnis, aesthetics "serves the architect [Koolhaas] as a Trojan horse, a seduction best used to cloak a more fundamental sedition. [sic]"¹⁴⁹ But if we take aesthetics in the most general sense of sensory appreciation (the science of the sensible), or *per negativum*, the opposite of anaesthetic, the whole dichotomy (structure/aesthetics or function/form) inevitably breaks down.¹⁵⁰ Can we afford this bracketing? It is certainly true that the more you separate performance from appearance (movement from image) the less anthropocentric your approach becomes. But the Nietzschean beyond good and evil does not equal beyond good and bad.¹⁵¹ In the end, there is no one to tell. Perhaps this is the ironic destiny of xenoarchitecture regardless of whether you start from *tabula rasa* at the micro

¹⁴⁶ August Schmarsow, "Essence of Architectural Creation," in *Empathy, Form & Space: Problems in German Aesthetics*, ed. Mallgrave & Ikononou (Santa Monica, CA: Getty Center for the History of Art and the Humanities, [1893] 1994), pp. 281-297. "The moment we see this visual appreciation as the truly essential element - a performance that, like the musical performance, can be repeated at will - then the technical structure and all the expenditure of massive material are reduced to secondary importance; they become means to an aesthetic end. And the costliness of the material and the glitter of polished columns and gilded capitals are on a level with the quality and character - the tone color - of the instruments that play together in the orchestra."

¹⁴⁷ Amédée Ozefant, *Foundations of Modern Art* (New York: Dover Publications Foundations of Modern Art, 1952).

¹⁴⁸ Adolf Loos, "Ornament and Crime", in *Programs and Manifestoes on 20th-Century Architecture*, ed. Ulrich Conrads (Cambridge, MA: MIT Press, 1970), p. 20. "The evolution of culture is synonymous with the removal of ornament from utilitarian objects."

¹⁴⁹ Jeffrey Kipnis, "Resistance is Futile?" in *Log* (No. 5, Summer 2005), p. 107.

¹⁵⁰ In our view, aesthetic is by no means limited to the biological organism as it extends to the so-called 'body politic' (part of eco-social matrix of other bodies). The original term was derived from the Greek *aisthetikos*, meaning "esthetic, sensitive, sentient", which in turn was derived from *aisthanomai*, meaning "I perceive, feel, sense". Its contemporary version "aesthetics" was appropriated and coined with a new meaning in the German form *Ästhetik* (modern spelling *Ästhetik*) by Alexander Baumgarten in 1735.

¹⁵¹ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 72.

(morphogenetic) level or macro (high-modernist/molar) level.¹⁵² As Cache put it: "Is [the former] a *tabula rasa* of space that seeks to succeed the *tabula rasa* of time through which the Moderns sought to rid us of the past?"¹⁵³ The potential way out of the impasse caused by the dichotomy of structure/aesthetics lies in the concept of *non-organic life*. The machinic phylum which produces all the three ecologies or spatio-temporal *haecceities* - environmental, social and psychic - knows no strangers (*xeno*).¹⁵⁴ It cannot know any simply because it is immanent.¹⁵⁵ The 'machinic phylum' is precisely the means to designate a single phylogenetic line cutting through *all* matter, 'living' or 'nonliving', as a single source of spontaneous order of all reality.¹⁵⁶ From this perspective, allo-architecture, as well as allo-anything, is the product of binary thinking.¹⁵⁷ It is no

¹⁵² It is in this sense, Arie Graafland argues, that the digital architects of morphogenetic persuasion (as opposed to the morphodynamic one) are, in fact, modern(ist). [Personal correspondence] Symptomatic of such modernist approach is, for example, Hannes Meyer: "[O]ur knowledge of the past is a burden that weighs upon us, and inherent in our advanced education are impediments tragically barring our new paths. [...] I try to approach the design entirely without any prepossessions and preconceived ideas." See: Hannes Meyer, "The New World" in *Buildings, Projects, and Writings* (Teufen, Switzerland: Arthur Niggli, [1926] 1965).

¹⁵³ Bernard Cache, "Plea for Euclid," in *Arch'it, rivista digitale di architettura* (1998), http://architettura.supereva.com/extended/19990501/index_en.htm (accessed May 25, 2011).

¹⁵⁴ 'Haecceity' is Deleuze and Guattari's term for an 'individual singularity'. It is usually translated as "thisness" (as opposed to 'whatness'). The term comes originally from the medieval philosopher John Duns Scotus and denotes the qualities and properties that make a thing, object or person an individual entity or an event. This is not an essential property but an emergent one. It means that each artefact, building, bone, etc. is a haecceity. 'Xeno' is a prefix based on the Greek word *Xenos*, meaning stranger.

¹⁵⁵ A more inclusive (structural *and* aesthetic) approach can be found in the engineer Stefan Polóny. This is how he explains the change that computer technology has brought about and how it has affected the whole process of design: "There is no need for extreme simplification for the sake of easy stress calculations that resulted in huge approximations and consequently overcapacity of load-bearing structures. This type of mentality, based on Cartesian principles, has to give way to a three-dimensional reflection on space. As a consequence, *the supporting structure is designed on the basis of esthetic and technico-constructive considerations as well as static ones* [...]." [emphasis added] See: Stefan Polóny, "Interpreting the Supporting Structures, of Architecture" in *Lotus* (No. 79, December 1993).

¹⁵⁶ See: Manuel DeLanda, "Nonorganic Life" in *Zone 6: Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Urzone, 1992), pp. 129-167. See also: Gilles Deleuze, "Eight Years Later: 1980 Interview" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 178. "Real abstraction is non-organic life."

¹⁵⁷ 'Alloarchitecture' is a term by Marcos Novak. See: Marcos Novak, "Speciation, Transvergence, Allogenes: Notes on the Production of the Alien" in *Reflexive Architecture*, ed. Neil Spiller (London: John Wiley & Sons, Limited, 2002), p. 67.

longer a question of first constituting the ego and then a relation to the Other. Placing the focus on the field which both precedes and lies outside the subject and the Other provides for new conceptual coordinates altogether. All relations are external to their terms and what is crucial therefore is to account for the *genetic* principle. The force which resonates in us and mixes with our own life is not anthropomorphism as François Zourabichvili explains:

'Our' interpretation is rightly concerned with the very force of existence of things, the dynamism of space and time that insist within them and that they affirm, given that they are and the manner in which they exist.¹⁵⁸

Such thinking marks the (architectural) transition from a space situation to a field condition.¹⁵⁹ The notion of the field expresses the full immanence of forces and events.

+++++		
multiplicity	quasi-cause	continuum
concept	concept. persona (CP)	pl. immanence
	/ aesthetic figure (AF)	
<i>created</i>	<i>invented</i>	<i>laid</i>
SOLUTION	UNKNOWN	PROBLEM
exoconsistency < effects >	endoconsistency	pre-philosophical
phase space (a BwO)	counter-effectuation	(the BwO)
	AF larval subject CP	
	BEING OF THE SENSIBLE	BEING OF THE INTELLIGIBLE
	plane of composition	plane of immanence
	<i>convergent</i> < series >	<i>divergent</i>
	percepts and affects (affordances)	
+++++		

xvi

Multiplicity: *A concept is a multiplicity, an absolute surface or volume made up of a certain number of inseparably intensive variations according to an order of neighbourhood, and traversed by a point in a state of survey.*¹⁶⁰
(G. Deleuze and F. Guattari, 1991)

"[C]entrifugal allocentrism is now displacing anthropocentrism, just as anthropocentrism displaced theocentrism [...]"

¹⁵⁸ François Zourabichvili, "Six Notes on the Percept (On the Relation between the Critical and Clinical)" in *Deleuze: A Critical Reader*, ed. Paul Patton (Cambridge, MA: Blackwell, 1996), p. 191.

¹⁵⁹ Lars Spuybroek, "Motor Geometry" in *Arch+* (No. 138, October 1997).

¹⁶⁰ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), p. 32.

Eduard Stekler's seminal definition of *tectonics* - within the triad structure/construction/tectonics - could thus be reworked in the following manner: *structure* (intangible/plane) to be laid, *construction* (material/concept) to be created and *tectonics* (expression/aesthetic figure) to be invented.¹⁶¹ [Table xvi] *Nota bene*, this is not tectonics as opposed to stereotomy but tectonics as *style* which encompasses both constructivist principles (addition and hollowing out). If we make an analogy with Deleuze and Guattari's 'conceptual persona,' who is not the thinker's representative but rather the reverse, we could say that the architect is only the envelope of his principal 'aesthetic figure.' All the other figures who are intercessors are the real subjects of his architecture. Deleuze and Guattari explain the reversal as follows: "Aesthetic figures and the style that creates them have nothing to do with rhetoric. They are sensations: percepts and affects, landscapes and faces, visions and becomings."¹⁶² To put it simply, there is no morphogenetic egg, as defined by Chu, without the morphodynamic chicken. They are reciprocally determined without the primacy of either. Simpler still, there is no outside. It is therefore impossible to divorce Koolhaas' strategy of 'infrastructural subterfuge' from aesthetic concerns the way Kipnis does. Although, to be fair, he does acknowledge that "a new horizon awaits architecture, a chance boldly to go where it has never gone before: into architectural sensation as resistance, as politics conducted by different means."¹⁶³ There is no need to dispense with humans to avoid anthropocentrism (if only with the liberal humanist tradition). It is in this sense that we uphold the thesis advanced by Hays in his *Autonomy Effect* insofar as he refuses to treat the two

¹⁶¹ In his essay "Structure, Construction, Tectonics" Sekler gives the following description of structure and construction: "Structure as the more general and abstract concept refers to a system or principle of arrangement destined to cope with forces at work in a building, such as, arch, vault, dome and folded plate. Construction, on the other hand refers to the concrete realisation of a principle or system - a realisation that may be carried out in a number of materials and ways. *Thus structure, the intangible concept, is realised through construction and given visual expression through tectonics.*" [emphasis added] See: Eduard Sekler, "Structure, Construction, Tectonics" in *Structure in Art and Science*, ed. Gyorgy Kepes and Alfred Breukelman (London: Studio Vista, 1965), pp. 89-95.

¹⁶² Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 177.

¹⁶³ Jeffrey Kipnis, "Resistance is Futile?" in *Log* (No. 5, Summer 2005), pp. 107-109. "Traditionally, architecture has drawn impetus for its meta-critical discourse from social sciences and its links to engineering or from the discourse of the visual arts and its links to philosophy and literary criticism. The persisting legacy of the former, for example, is the conception of architecture as an instrument of direct social action and the synonymy of architectural performance with function or use. The influence of the latter is apparent in bifurcation of architectural aesthetics into a phenomenology of perceptions and a mode of representation and signification."

notions - autonomy and effect - as opposites.¹⁶⁴ Why not have a cake and eat it too? Or in a more Žižekian tenor: "Tea or coffee? Yes, please!" With a caveat that this does not imply that anything goes.

In any event, more often than not, the two architectural alternatives - the defamiliarised typologies and the unfamiliar xenoarchitecture - are mapped onto the difference between the subtractive (overly analytic) *stereotomy* and the additive (overly synthetic) *tectonics*.¹⁶⁵ Is it formalism and structuralism or even Classical and Gothic paradigm all over again?¹⁶⁶ (Less) Aesthetics and (more) Ethics?¹⁶⁷ This has, of course, always been a fallacy of choice.

036 **Abduction** A similar fallacy of choice between the logics of induction and deduction led the American pragmatist Charles Sanders Peirce to propose for the logic of abduction (retroduction): "The truth is that the whole fabric of our knowledge is one matted felt of pure hypothesis confirmed and refined by induction. Not the smallest advance can be made in knowledge beyond the stage of vacant staring, without making an abduction at every step."¹⁶⁸ Induction is often referred to as pulling a rabbit out of the hat. Its *a priori* logic is literally inexplicable. The problem with the *a posteriori* deduction is that it is inherently tautological and for that reason barren. In other words, deductive logic is as much about *putting* the rabbit into the hat as it is about pulling it out. With abduction, however, emphasis shifts to the very *process* of production.¹⁶⁹ Peirce explains the

¹⁶⁴ Michael K. Hays, "The Autonomy Effect" in *Bernard Tschumi*, ed. Giovanni Damiani (New York, Universe Publishing 2003), p. 7. "What I want to propose here is that the recent turn toward the production of effects, which seems to be directly opposed to the earlier autonomy project, is, in fact, an outcome of the autonomy project - not that the recent positions arose like phoenix from the ash heap of that project's failure, but that the issue of effects was implied in the autonomy thesis all along."

¹⁶⁵ A similar dichotomy is suggested by Morris: "[T]here are only two primal kinds of building: the corral and the souk. The corral is in a fence around a space; the souk is a carpet on the ground and a cloth ceiling." See: Dave Hickey, "On Not Being Governed" in *Harvard Design Magazine* No. 25 (Fall 2006/Winter 2007), pp. 74-76.

¹⁶⁶ Scott Lash, *Another Modernity: A Different Rationality* (Oxford: Blackwell Publishers, 1999), pp 26-34.

¹⁶⁷ 'Less Aesthetics, More Ethics' is the title of the first Venice Architectural Biennale of the third millennium under the directorship of Massimiliano Fuxas.

¹⁶⁸ Quoted in: Thomas A. Sebeok and Jean Umiker-Sebeok, "You Know My Method: A Juxtaposition of Charles S. Peirce and Sherlock Holmes" in *The Play of Musement*, ed. Thomas Sebeok (IA, Indiana Bloomington: 2009), p. 16.

¹⁶⁹ A parallel with Ungers' approach to design is instructive: "What all that means - thinking and designing in images, metaphors, models, analogies, symbols and allegories - is nothing more than a transition from purely pragmatic approaches to a more creative mode of thinking. It means a process of thinking in qualitative values rather than quantitative data, a process that is based on synthesis rather than analysis. Not that analytical methods are opposed but more in the direction that analysis and synthesis alternate as

alternative to a logician's narrow and formalistic conception of inference: "Abduction seeks a theory. Induction seeks for facts. In abduction the consideration of the facts suggests the hypothesis. In induction the study of the hypothesis suggests the experiments which bring to light the very facts to which the hypothesis had pointed."¹⁷⁰ Peirce's doctrine of 'synechism' - all that exists is continuous - resonates with Gilbert Simondon's ontogenesis of *individuation*, or synthesis of reason and sensibility.¹⁷¹ What they offer is a radically different logic which - in contrast to the digital (discrete) - is the logic of *continuity*. In the words of the transcendental empiricist Gilles Deleuze:

The point of departure of a logic of relations is obvious: in what sense is there a consistency of the relation independent of its terms? When the terms vanish, the relation subsists. The terms between which the relation is established are neither determined, nor determinable. Only the relation between its terms is determined. It is here that logic is going to make a leap, but a fundamental leap. Under this form of the differential calculus is discovered a domain where the relations no longer depend on their terms.¹⁷²

This is precisely what the anthropologist Gregory Bateson means by the *difference that makes a difference*, which is not to be confused with the frivolous PoMo celebration of diversity. The discursive dyad of true vs. false (copy) is replaced by the differential field populated by remarkable (singular) vs. ordinary neighbourhoods. Digital architects, take note: The very asymmetry between the two odd unequal halves of the virtual and actual is proof of the fact that - in nature - different (endogenous) *genotypes* vastly outnumber (exogenous) *phenotypes*.¹⁷³ It is standing proof that actual phenotypes are both limited and limiting (nature and naturing), even if, as the ecologist (without nature) Timothy Morton puts it, "DNA isn't a blueprint; it's more like a recipe, and recipes

naturally as breathing in and breathing out, as Goethe put it." See: Oswald Mathias Ungers, *Morphologie: City Metaphors* (Cologne, Walther König, 1982).

¹⁷⁰ Thomas A. Sebeok and Jean Umiker-Sebeok, "You Know My Method: A Juxtaposition of Charles S. Peirce and Sherlock Holmes" in *The Play of Musement*, ed. Thomas Sebeok (IA, Indiana Bloomington: 2009), p. 25.

¹⁷¹ Gilbert Simondon, "Genesis of the Individual" in *Incorporations* (New York: Zone Books, 1992), pp. 297-319. In *Difference and Repetition* (1968) Deleuze develops a theory of three series of individuation: space, time, psyche.

¹⁷² Gilles Deleuze, *Cours Vincennes*: "the actual infinite-eternal, the logic of relations" (March 10, 1981), <http://www.webdeleuze.com/php/texte.php?cle=42&groupe=Spinoza&langue=2> (accessed May 25, 2011).

¹⁷³ Organisms do not 'incarnate' genes. The virtual is 'creatively' actualised via intensive individuation processes where an environmental induction of novel phenotypic traits takes the lead and stabilises a new gene-regulation process.

produce very different results."¹⁷⁴ We need to keep this in mind (body) when "projecting back and making alternative roads", because - once again - *matter does matter*, to paraphrase the self-proclaimed 'street philosopher' Manuel DeLanda. After all, it was brute material force that ended Flusser's life prematurely in a car crash in 1991. This is a stark reminder about the power of the *non*-discursive which has been systematically eroded in architectural theory ever since the so-called Linguistic Turn.

037 **Diacritical** The full spectrum of perception ranges from *representation* to *expression* as polar opposites.¹⁷⁵ It could be argued that in the field of representation similarities dominate, whereas in the field of ontology differences dominate. Representation is driven by the binary logic of either/or. It happily embraces the law of the excluded middle. Either a dog or a cat. Note that even hybrids succumb to categories (of possible experience).¹⁷⁶ They are not genuine expressions. This is what Deleuze mocks as the "reversed ontology" whereby subjectivity is set up as a cause rather than an effect of sensation. Strictly speaking, the 'transcendental subject' cannot even be said to exist because it is not an entity, but rather a set of conditions rendering objective scientific knowledge possible.¹⁷⁷ By contrast, transcendental empiricism radically undermines the distinction between the critical and dogmatic, opening thought to the pre-subjective.¹⁷⁸ Consequently, a hybrid typology in architecture that supposedly stems from a new possibility (let's call it a dogcat) is no more than a *retroactive*

¹⁷⁴ We share 98% of our DNA with chimps and 35% with daffodils. See: Timothy Morton, *The Ecological Thought* (Cambridge, MA: Harvard UP, 2010, 2010), p. 66.

¹⁷⁵ Erin Manning, *RelationScapes; Movement, Art, Philosophy* (Cambridge, Massachusetts and London, England: MIT Press 2009), p. 94.

¹⁷⁶ Categories are pseudo-predicates. Foucault illustrates their arbitrariness through Borges' *Chinese Encyclopaedia* titled *Celestial Emporium of Benevolent Knowledge*, which divides animals into the following categories: (a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) suckling pigs, (e) mermaids, (f) fabulous ones, (g) stray dogs, (h) those that are included in this classification, (i) those that tremble as if they were mad, (j) innumerable ones, (k) those drawn with a very fine camel's-hair brush, (l) others, (m) those that have just broken a flower vase, (n) those that resemble flies from a distance. See: Michel Foucault: *The Order of Things; An archeology of the human sciences* (London: Routledge Classic [1966] 2002), p. xvi.

¹⁷⁷ Quentin Meillasoux, *After Finitudes; An Essay on the Necessity of Contingency* (London, New York, Continuum, [2006] 2008), p. 23. "But a condition for objective cognition cannot be treated as an object, and since only objects can be said to exist, it is necessary to insist that a condition does not exist - precisely because it conditions."

¹⁷⁸ Levi R. Bryant, "Deleuze's Transcendental Empiricism: Notes Towards a Transcendental Materialism" in *Thinking Between Deleuze and Kant: A Strange Encounter*, eds. Edward Willatt & Matt Lee (London and New York: Continuum, 2009), pp. 28-48.

actuality (dog and cat).¹⁷⁹ If there is any 'movement' at all in this operation it is *imposed* by the constitutive subject (dog + cat) and it will remain so as long as we stick to diacritical models.¹⁸⁰ In the frequently quoted entry on 'Type' in the *Encyclopédie Méthodique* (1788), Antoine Quatremère de Quincy gives a more 'plastic' and eventful definition of 'type' contrasting it with a more rigid 'model'. The model is to be repeated as it is (repetition of the same), while the type is the repetition of difference: "Everything is precise and given in the model; everything is more or less vague in the type."¹⁸¹ In contemporary parlance, Quatremère's 'type' is diagrammatical (topological), whereas the 'model' is typological (essentialist).¹⁸² It was German architect and theorist Gottfried Semper who made, in this former sense, space the principal theme of modern architecture by advocating primacy of enclosure (effect) over material (cause).¹⁸³ More precisely, he proposed that "elements of architecture" be understood as *processes* involved in construction: terracing (masonry), roofing (carpentry),

¹⁷⁹ Dog and cat are, of course, interchangeable with, for example, 'blob and box' or 'table and corridor'.

¹⁸⁰ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 8. Deleuze contrasts the philosophical mobility of Kierkegaard and Nietzsche to the 'mediation' and 'false movement' of representation in Hegel: "It is not enough for them to propose a new representation of movement; *representation is already mediation*. Rather, it is a question of producing within the work a movement capable of affecting the mind outside of all representation; it is a question of making movement itself a work, without interposition; of *substituting direct signs for mediate representations*; of inventing vibrations, rotations, whirlings, gravitations, dances or leaps which directly touch the mind." [emphases added]

¹⁸¹ Quoted in Aldo Rossi, *The Architecture of the City* (Cambridge, MA: MIT, 1982), p. 40.

¹⁸² Kipnis quotes a paragraph from Moneo's book where he outlines divergent attitudes of six practices toward models (in the diagrammatic sense): "Curiously, Siza's work emerges full of references for modern architecture, but without models. Rossi's concept of type and model pertain to the Platonic ambit of a dream world. Eisenman's models give form to a phantom where the basic syntactic structure prevails. Stirling was more preoccupied with style - ultimately with history - than with models. Gehry tries to do away with them altogether. So surely Koolhaas is the only one of the architects in this book who knows [...] his models [modern cities] and like a realist painter, tries to make his buildings as close to them as possible" According to Kipnis, "In those ninety-nine words lay an outline for rethinking the clichéd concept of precedent, which today serves as little more than an excuse for knee-jerk repetition of program-based building patterns." Quoted in Jeffrey Kipnis, "Moneo's Anxiety" in *On Criticism, Harvard Design Magazine* (Fall 2005), p. 104. Cf. Rafael Moneo, *Theoretical Anxiety and Design Strategies in the Work of Eight Contemporary Architects* (Cambridge, MA: The MIT Press, 2004), p. 313.

¹⁸³ See: Gottfried Semper, *The Four Elements of Architecture and Other Writings* (Cambridge: Cambridge UP, 1989). See also: Gottfried Semper, *Style in the Technical and Tectonic Arts; or, Practical Aesthetics* (Los Angeles: Getty Research Institute, 2004).

hearth (ceramics) and partitioning (textiles).¹⁸⁴ Semper's project was indubitably influenced by Georges Cuvier's method of organising things according to their function rather than external similarities.¹⁸⁵ It marks a strong materialist non-essentialist position, ready to embrace change as its (pre)condition. Within almost every discipline a cleaving occurred, as Sanford Kwinter argues: "On the one side were calls for a return to 'classical' values that would provide a bulwark against so-called 'irrationalisms' of complex and counterintuitive phenomena. On the other was an outright embrace of the instabilities introduced by these transformations of knowledge and attempts to espouse these as dynamos to drive invention."¹⁸⁶ In the case of contemporary architecture, Robert Venturi certainly deserves credit for being among the first to sense that the Whole was becoming problematic, that *we have lost control over the totality*.¹⁸⁷ Naturally, there has never been a totality "except a statistical one that lacks any profound meaning."¹⁸⁸ Consequently, the subject could not remain unscathed. This is how Somol and Whiting interpret Venturi's conception of the subject in contrast to Peter Eisenman:

Eisenman & Co. replaced a behaviorist, causal relation between the subject and the architectural object with an optical-conceptual model, whereby the subject could be distanced from the object and reflect upon his or her own subjectivity. At the same time, with Jencks, Venturi, & Co. offering a multiple or populist platform, all subjects could find themselves in the object and thereby be consumed by their own subjectivities.¹⁸⁹

¹⁸⁴ "His four elements are much more states of aggregation, of density or rigidity, than actual building materials." See: Lars Spuybroek, "Experience, Tectonics and Continuity" in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 19. See also: Bernard Cache, "Digital Semper" in *Rethinking Technology, A reader in Architectural Theory*, ed. William W. Braham and Jonathan A. Hale (New York: Routledge, [2000] 2007), pp. 378-387. "Technical art is a contracting memory [Bergson] as opposed to an engramme [computer 'memory'/sequence of bits]."

¹⁸⁵ Carrie Asman, "Ornament and Motion: Science and Art in Gottfried Semper's Theory of Adornment" in *Herzog & De Meuron: Natural History*, ed. Philip Ursprung (Montréal: Canadian Centre for Architecture, 2002), pp. 385-397. "One of the fundamental premises underlying Semper's drawings and theoretical writings on art and architecture is the firm conviction that science and art share a common language."

¹⁸⁶ Sanford Kwinter, "On Difficulty and Innovation" in *Architecture As Conceptual Art?* (Harvard Design Magazine Number 19, Fall 2003/Winter 2004).

¹⁸⁷ See: Robert Venturi, *Complexity and Contradiction in Architecture* (New York: Museum of Modern Art, 1966).

¹⁸⁸ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 82.

¹⁸⁹ Robert Somol and Sarah Whiting, "Okay, here's The Plan..." in *Log* (No. 5, Summer 2005), p. 6.

What seems to be left at the disposal of 'post-critical' designers is to make difference *locally*, often through extravagance, until the exception itself becomes the norm. But the question is whether it is possible to go beyond Venturi's "more is not less," or beyond the technique that draws things together from unrelated contexts into a new context, namely, Colin Rowe's *collage*.¹⁹⁰ This is precisely what John Rajchman tried to flush out in his conversation with Rem Koolhaas.¹⁹¹ Koolhaas qualifies the strategy of collage as a purely visual *simulated* complexity, whose declarative anti-utopian stance does not make it political either. However, if there is any obligation toward the Venturian 'difficult whole', it is the difficult unity achieved through *inclusion* rather than the easy unity through *exclusion*.¹⁹² What Koolhaas consequently proposes is to upgrade the not-impossible-but 'difficult Whole' with his theory of 'Bigness'. The new Whole, in the wake of the crisis of the Whole, is no longer based on exclusion or homogeneity but on cultivating the uncontrollable. It is worth pointing out that there is a wide consensus among the pretenders to avant-gardism concerning the first part of the statement, namely to cultivate the culture of heterogeneity. However, the second point is a bitter pill to swallow for anyone who was brought up in the tradition of engineering or for those who truly believe to be in control. It is no wonder that the contemporary parametricists - in the most general sense of associative computing - yet again openly thrive on the (perfect) fit between function and form and will justify any discrepancy as an epistemological problem rather than an ontological condition.¹⁹³ In the words of Markus Miessen:

Cedric [Price] very smartly asked: "If technology is the answer, what was the question?" [...] I would love to ask many so-called contemporaries in architecture: "If parametric urbanism and scripting is the answer, what was the question?"

In spite of its dumb name (op. cit. Hal Foster), Koolhaas' Bigness avoids this category error by proposing a non-totalising pragmatic Whole that does not pretend to control what is beyond the range of a single perspective.¹⁹⁴ The parallel with the Proustian (literary) machine as described by Deleuze is

¹⁹⁰ Colin Rowe and Fred Koetter, *Collage City* (Cambridge, MA: MIT, 1978).

¹⁹¹ John Rajchman, "Thinking Big" interview with Rem Koolhaas, *Artforum*, December 1994.

¹⁹² Robert Venturi, *Complexity and Contradiction in Architecture* (New York: Museum of Modern Art, 1966), p. 16.

¹⁹³ See: Markus Miessen, *The Nightmare of Participation; (Crossbench Praxis as a mode of Criticality)* (Berlin: Sternberg Press, 2010), p. 258.

¹⁹⁴ Rem Koolhaas, "Bigness or the problem of Large" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), p. 510. "In a landscape of disarray, disassembly, dissociation, disclamation, the attraction of Bigness is its potential to reconstruct the Whole, resurrect the Real, reinvent the collective, reclaim maximum possibility."

unavoidable: "[F]rom one world to another, from one word to another, without ever reducing the many to the One, without ever gathering up the multiple into a whole, but affirming the original unity of precisely that multiplicity, affirming without uniting all these irreducible fragments."¹⁹⁵

Jeffrey Kipnis similarly diagnoses the exhaustion of the collage as the prevailing paradigm of architectural heterogeneity. According to Kipnis, collage is limited to a peculiar order of semiotic recombinations: "Each element in a collage, even in the aleatoric process-collage of Dada, must be known and restorable in its own right [dogs, cats]. Thus, although collage may engender new compositions as well as shifts, slips, accidents and other chimerical effects, the long-term effect of collage is to valorise a *finite* catalogue of elements and/or processes."¹⁹⁶ [emphasis added] Thus the technique of collage remains in all its guises inherently tautological. As one commentator observed, when buying books online you are often informed of what "people like you" read, so that by accepting these suggestions you become even more like people who, in turn, are like you. Or in a more architectural vein from Koolhaas' *Generic City* (1994):

The stronger identity, the more it imprisons, the more it resists expansion, interpretation, renewal, contradiction. Identity becomes like a lighthouse – fixed, overdetermined: it can change its position or the pattern it emits only at the cost of destabilizing navigation.¹⁹⁷

038 To the Abstract Concretely We now turn to the immanent process of individuation, where both subject(ile)s and object(ile)s are the expressions of the virtual.¹⁹⁸ There are no ready-mades in the virtual which, despite not being actualised, is as real as it gets and not just possible. The actual itself is always digital (discrete) and extensive (topographical). Conversely, the virtual is intensive (topological) and *ipso facto* creative. More precisely, we should consider the intensive as an 'independent' ontological register, one that mediates the virtual and actual, which are its (unattainable) limits or asymptotic conditions. In other words, we should start from the middle. The virtual and the actual are constituted in the course of what Simondon called a transductive

¹⁹⁵ Proust, through his study of reminiscence, has shown how the past can be saved without reducing it to representations. See: Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 64

¹⁹⁶ Jeffrey Kipnis, "Towards A New Architecture" in *Architectural Design*, (Vol. 63, No. 3-4, March-April 1993).

¹⁹⁷ Rem Koolhaas, "Generic City" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), p. 1248.

¹⁹⁸ 'Objectile' is a neologism combining 'projectile' and 'object', evoking the sense of objects as events. This is to stress that a field of immediate experience is not composed of objects.

relation, one which constitutes its terms so that neither precedes the other because they only exist in the relation. Bluntly put, the basic idea is that we know the real through objects, but the real itself is not an object: "[...] we know intensity only as already developed within an extensity, and as covered over by qualities."¹⁹⁹ By focusing on visible properties we neglect the temporal process and functional integration. This is how Brian Massumi explains the distinction between the implicate and explicate orders:

Implicit form is a bundling of potential functions, an infolding or contraction of potential interactions (intension). The playing out of those potentials requires an unfolding in three-dimensional space and linear time-extension as actualisation; actualisation as expression. It is in expression that the fade-out occurs. The limits of the field of emergence are in its actual expression. Implicit form may be thought of as the effective presence of the sum total of a thing's interaction minus the thing.²⁰⁰

Please note that the emphasis is put on the process of unfolding and not on the contrast between the implicate and explicate orders. The emphasis is on the environment of a pre-articulate expressibility tending toward a determinate expression - yet to come - caught in the middling of the event.²⁰¹

Again, there is no symmetry between the two (odd halves), contrary to what Žižek says in his otherwise original psychoanalytic reading of the post/modern split *qua* "perhaps the last great modernist film", namely, Antonioni's *Blow Up* (1966).²⁰² The plot is well known. As the protagonist (a photographer) develops photographs he has taken in the park his attention is caught by a detail. He discovers through a series of enlargements that a murder has taken place. At night he returns to the crime scene and stumbles upon a body. The following day the body disappears without a trace. The body, according to the crime novel's code (in psychoanalytic reading), is the *object of desire par excellence*, and the cause which prompts the interpretative desire. The key to the

¹⁹⁹ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 223.

²⁰⁰ Affect is as good a general term as any for an interface between implicate and explicate order. See: Brian Massumi, "Autonomy of Affect" in *Deleuze: a Critical Reader*, ed. Paul Patton (Oxford: Blackwell Publ., 1996), p. 228.

²⁰¹ Erin Manning and Brian Massumi, "Coming Alive in a World of Texture: For Neurodiversity", keynote talk-performance at *Dance, Politics & Co-Immunity Thinking - Resisting - Reading the Political* (Giessen, November 12, 2010), <http://www.dance-tech.net/video/brian-massumi-erin-manning> (accessed May 25, 2011).

²⁰² Slavoj Žižek, "The Limits of the Semiotic Approach to Psychoanalysis", in *Psychoanalysis and...*, ed. Richard Feldstein and Henry Sussman (London and New York: Routledge, 1990), pp. 89-110.

film, as Žižek asserts, is revealed in the final scene. The hero, resigned in his futile investigation, encounters a group of hippies pretending to play tennis without a ball. In this game of pretence, the imaginary ball flies over the fence and lands at the hero's feet. He hesitates for a moment but eventually joins the game of pretence by feigning to pick the ball and throw it back. The scene, according to Žižek, plays a metaphorical role in relation to the totality of the film. It makes the hero realise that 'the game' works without the 'object'. The postmodernist way is the *exact reverse* of this process, as Žižek concludes. Rather than showing a process (that works without an object and is put into motion by a central emptiness), it makes visible the indifferent and arbitrary character of the object itself.²⁰³ It is all very well, except that there is no such symmetry between the process and object, as our analysis involving Flusser demonstrates. Flusser's intuition in favour of the process of abstraction - going to the 'unimaginable' and subsequently 'projecting back' (or is it forward?) - is spot-on, except that we ought to bring it to the abstract *concretely*. Not abstractly.

039 **Transduction** What can this possibly mean? It is not sufficient to declare a war on typologies/essences (reified generalities), as attempted by Kengo Kuma in his recent manifesto-like *Anti-Object: The Dissolution and Disintegration of Architecture* (2008).²⁰⁴ As if getting rid of striation would solve all our problems (it is not the worst thing that can happen to you anyway). Marcel Duchamp would qualify his approach as *retinalism*, a shallow attempt to appeal to the field of vision alone. In doing so, Kuma simply repeats the mistake of confusing the experience of space with the space of experience. It calls to mind a story about a person who lost his keys in the dark but looked for them under the streetlight. This is the habit of a dialectician for whom "the Intelligence always *comes before*, by which the whole is always present, the law already known before what it applies to."²⁰⁵ An exemplary instance of such thinking is the observation made by one of the Team X architects, Aldo van Eyck: "But if society has no form how can architects build its counterform?"²⁰⁶

²⁰³ For Frederic Jameson, the transition from modernism to postmodernism is marked by the disappearance of modernist critical distance. See: Frederic Jameson: *Postmodernism, Or, The Cultural Logic of Late Capitalism* (Durham: Duke UP, 1991).

²⁰⁴ Kengo Kuma, *Anti-Object: The Dissolution and Disintegration of Architecture* (London, AA Publications, 2008), p. 32. "[W]e are composed of matter and live in the midst of matter. Our objective should not be to renounce matter but rather to search for a form of matter other than objects. What that form is called - architecture, gardens, computer technology - is not important. Until a new name is given to that form. I will call it the 'anti-object'."

²⁰⁵ See: Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1964] 2007), p. 69.

²⁰⁶ Quoted in Frederic Jameson, "Cognitive Mapping" in *Marxism and the Interpretation of Culture*, ed. C. Nelson and L. Grossberg (University of Illinois Press, 1990), pp. 347-360.

We have learned the lesson, and painfully so, that it is not true that anything goes. We have yet to learn that there is a difference in kind, and not merely in degree, between the actual and virtual. "Forms interact not with forms but with their background which is the system of all forms even before they had separate existence."²⁰⁷ The idea which has persisted for the last four hundred years of a variably deformable *object* in a complex vector field as being the main principle of design needs to be rethought (form/counterform). By contrast, only force can be related to another force."²⁰⁸ To put it bluntly, *action on action, not action on object*, is the formula.

Why focus on the privileged instant (presentational immediacy) and not on any-instant-whatever? It is the any-instant-whatever that can be either ordinary or remarkable (causal efficacy). The difference can be determined only by teasing it out through experiments, and never *a priori* or in opposition.²⁰⁹ As Deleuze explains in his essay on the Irish avant-garde writer Samuel Beckett: "The any-space-whatever is populated and well-trodden, it is even that which we ourselves populate and traverse, but it is opposed to all our pseudoqualified extensions [...] Just as the image appears as a visual or aureal ritornello to one who makes it, space appears as a motor ritornello - postures, positions, and gaits - to the one who travels through it."²¹⁰ Only in this way can we determine whether the encounter is ethical, in other words, whether it augments or diminishes our power of action. *We never know in advance what a body can do*. It is high time we expanded the perimeter of search beyond the streetlight.

It is curious that the simulated complexity should come to be regarded as superior to the simulated simplicity, where the latter is defined as stability achieved by elimination of detail.²¹¹ The art critic Dave Hickey openly confesses

²⁰⁷ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 87.

²⁰⁸ Gilles Deleuze, *Nietzsche and Philosophy* (New York: Columbia University Press, [1962] 2006), p. 6.

²⁰⁹ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 6. "This is indeed the difference between the modern dialectic, to which Eisenstein appeals, and the old dialectic. The latter is the order of transcendental forms which are actualised in a movement, while the former is the production and confrontation of the singular points which are immanent to movement. Now this production of singularities (the qualitative leap) is achieved by the accumulation of banalities (quantitative process), so that the singular is taken from the any-whatever, and is itself an any-whatever which is simply non-ordinary and non-regular. Eisenstein himself made it clear that 'the pathetic' presupposed 'the organic' as the organised set of any-instant-whatevers through which the cuts have to pass."

²¹⁰ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 160.

²¹¹ Mitchell offers a simple machinic way of distinguishing between the purist and eclectic architecture. "If you have a digital camera, you can actually measure the difference

his preference for the "real fakery" over the "fake reality".²¹² In terms of architecture, the choice would be that between Las Vegas and Santa Fe. When it comes to mainstream animation, Stan Allen demands that we choose between Richard Linklater's *Waking Life* and Pixar's *Monsters, Inc*, both of which were made in 2001. He asserts his preference for the former, a "low-definition and high concept, rather than the high-definition, low-concept of mainstream animation [of the latter]."²¹³ But how about the 'artificiality' of neither real fakery nor fake reality but of non-correlationist 'real reality'? Take for example the 'phase space' of water. Its 'dimensionality' is determined by the 'degrees of freedom' (variables such as temperature and pressure). It undergoes two phase transitions: from ice to liquid and from liquid to gas. In other words, its virtuality is fully differentiated by these two bifurcations/singularities: freezing and boiling.²¹⁴ But there is no homology between the topology of the virtual and the geometry of the actual. In the words of Deleuze: "Actual items never resemble the singularities they incarnate. In this sense, actualisation or differentiation is always a genuine creation."²¹⁵ There is no form of forms to bridge the gap between the 'form of content' and the 'form of expression'.²¹⁶ Ice is an expression, and not a representation of an 'ideal event' of freezing.²¹⁷ It is therefore neither

between MOMA's simple surfaces and more complex ones, such as those of Cesar Pelli's polychrome apartment tower next door. A photograph of a simple surface yields a relatively small JPG file, since the JPG compression algorithm takes advantage of the fact that many pixels are the same as their neighbors. But a photograph of a complex surface produces a larger file, since pixels mostly differ from their neighbors. To put the point in slightly different technical terms, there is not much visual signal coming at you from the simple surface as more are being emitted from the complex surface." See: William J. Mitchell, *Placing Words: Symbols, Space, and the City* (Cambridge, MA: MIT Press, 2005), p. 172.

²¹² Dave Hickey, "Dialectical Utopias: On Santa Fe and Las Vegas" in *Harvard Design Magazine* (No. 4, Winter/Spring 1998). "Let me confess at the outset to my preference for the real fakery of Las Vegas over the fake reality of Santa Fe - for the genuine rhinestone over the imitation pearl."

²¹³ Stan Allen, "The Digital Complex" in *Log* (No. 5, Summer 2005), pp. 96-97.

²¹⁴ Bifurcation in mathematics corresponds to the abrupt appearance of a new solution for a critical value of a system's parameter.

²¹⁵ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 212.

²¹⁶ Deleuze and Guattari mobilize Hjelmslev's linguistics, rereading it in a highly original fashion, to develop a metaphysics of matter undergoing morphogenesis. The relationship between Expression and Content is not one of correspondence, such as we find in the relationship of the signifier and the signified, but of two heterogeneous yet reciprocally presupposing forms of organisation.

²¹⁷ Sanford Kwinter rightly considers this revelation as no small revolution in design. Consider his example of two different forms of expression - chemical and tectonic - belonging to one order of reality: "When a tree is configured to function as a wood column or beam, it is

real nor fake, as there is no imperative of correlation to begin with. This entire intellectual muddle is a consequence of the concept of truth as adequation. Closer to the realm of architecture is the Foucauldian example of the *prison* as that form of content whose form of expression is *penal law*.²¹⁸ No homology there, either. *There can be no simple correlation between urban and social form*.²¹⁹ The same *transduction* equally applies to virtually *all* non-linear dynamic systems.²²⁰ [Table xvii] According to Guattari, signs work as much as matter and matter expresses as much as signs: "Transduction is the idea that, in essence, something is conducted, something happens between chains of semiotic expression, and material chains."²²¹ It is also important to stress that the very attribute 'non-linear'

one set of properties of cellulose that is selected for expression; or more properly, it is the geometry of vascular bundling that selects the properties of cellulose and conveys their felicitous rigidities and flexibilities to the macroscopic scale of the building itself. On the other hand, when a tree is configured into a log for burning, it is the fire itself - that exists already inside of the wood, only dormant or infinitely slowed - that is selected for expression or release." See: Sanford Kwinter, "The Judo of Combustion" in *Atlas of novel Tectonics*, ed. Jesse Reiser and Nanako Umemoto, (New York: Princeton Architectural Press, 2006), p. 13.

²¹⁸ See: Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 47. "The content has both form and substance: for example, the form is prison and the substance is those that are locked up, the prisoners [...] The expression also has a form and a substance: for example, the form is penal law and the substance is 'delinquency' in so far as it is the object of statements. Just as penal law as a form of expression defines a field of sayability (the statements of delinquency), so prison as a form of content defines a place of visibility ('panopticism'), that is to say, a place where at any moment one can see everything without being seen."

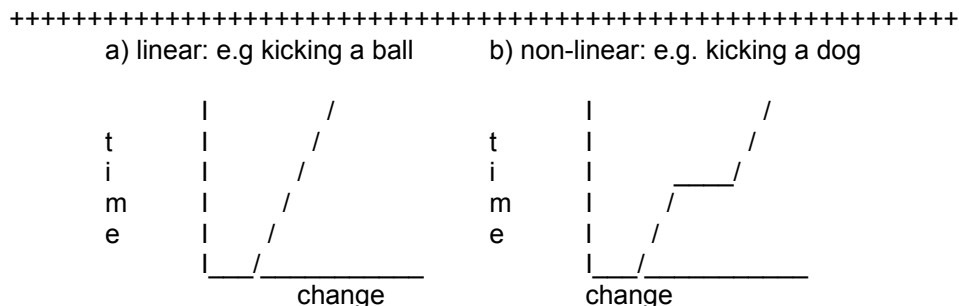
²¹⁹ This kind of intensive thinking lies behind what Manuel de Solà-Morales has characterised as 'urban acupuncture'. "This concept refers to the reparative potential of compact catalytic urban interventions, with the proviso that these should be realizable within a fairly short period of time and be capable of spontaneously restructuring their immediate surroundings. A corollary to such interventions is the urban *megaform* [...]" See: Kenneth Frampton, "On the Predicament of Architecture at the Turn of the Century" in *Hunch 6/7: 109 Provisional Attempts to Address Six Simple and Hard Questions...* (Rotterdam: Episode Publishers, 3003), p. 188. Cf. Manuel de Solà Morales, "progettare città/Designing Cities" in *Lotus Quaderni Documents, No. 23*, ed. Mirko Zardini (Milan: Electa, 1999).

²²⁰ The term 'dynamic systems', in its most generic form, means systems and elements that change over time. For an overview of dynamic systems theories (DST) see: Esther Thelen and Linda B. Smith: "Dynamic Systems Theories" in *Handbook of Child Psychology*, ed. Richard M. Lerner (New Jersey: John Wiley & Sons, 2006), pp. 258-312.

²²¹ Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 330. Cf. "Interview/Félix Guattari" in *Diacritics: a review of contemporary criticism* (Fall 1974), p. 39.

is as meaningful as its counterpart in the term 'non-elephant zoology'.²²² In other words, linearity is very rare, except in (flawed) theory:

The contemporary indoctrination into linear causality is so strong that it continues to exercise a fatal attraction for much of contemporary thought. It must be continually resisted if we are fully to realize the implications of multicausal and multilayered hierarchical systems, which entail distributed agency, emergent processes, unpredictable coevolutions, and seemingly paradoxical interactions between convergent and divergent processes.²²³



xvii **Linear vs. Non-linear System:** *In the linear system there is a correlation between 'input' and 'output'; the greater the force the greater the change. By contrast, non-linear systems have no such simple (1:1) correlation; small cause can produce great effect, or no effect, or variable effect, etc.*

2.2.3 From Zero-dimension to *Lebenswelt* (SG)

040 **Problem/Idea** Philosopher Henri Bergson knew all too well that adequate positing of a problem is a problem half solved. Similarly, mathematician Henri Poincaré thought the solution to an uninteresting problem worse than discovering an error in the solution to a remarkable one, as the latter can be corrected while the former will remain eternally trivial. As Daniel W. Smith explains, "The truth of a solution [...] is less important than the truth or 'interest' of the problem being dealt with (a problem always has the solution it 'deserves')." ²²⁴ In the words of Michael Speaks:

²²² Mathematician Stanislaw Ulam remarked that to call the study of chaos "nonlinear science" was like calling zoology "the study of non-elephant animals." See: James Gleick, *Chaos: Making a New Science* (New York: Viking, 1987), p. 60.

²²³ See: Katherine Hayles, *My Mother was a Computer: Digital Subjects and Literary Texts* (Chicago: The University of Chicago Press, 2005), p. 31.

²²⁴ Daniel W. Smith, "Mathematics and the Theory of Multiplicities: Badiou and Deleuze Revisited" in *Southern Journal of Philosophy* (Vol. 41, No. 3, Fall 2003), pp. 411-449.

While problem-solving works within a given paradigm to create new solutions to known problems, innovation risks working with existent but unknown conditions in order to discover opportunities that could not have been predicted in advance.²²⁵

+++++	
SNOW FLAKE	ICE CUBE
<i>modulation</i>	<i>moulding</i>
morphogenesis	hylomorphism
<ul style="list-style-type: none"> - mica and mineral particles - moisture-saturated field - thermal flow of heat exchange - a speck of dust-ice - gravity - wind - barometric pressure - humidity - other silicate dust - water 	<ul style="list-style-type: none"> - thermal flow - acoustic flow - electrical gradients - magnetic gradients - speed - preestablished molecular structure - developmental pathways - dynamical interactions - singular points - qualitative movements in abstract space
+++++	

xviii

The Role of 'Time' in Morphogenesis: *The ice-form expresses at the same time a potential of the material phylum to which it belongs, and an environing set of weather conditions. In the classical mode, time has no creative agency because time does not regulate movement but merely measures it.* (S. Kwinter, 2001)

Already in the seminal *Difference and Repetition* (1968), Deleuze stressed that (the virtual) Problems/Ideas were *extra*-propositional and *sub*-representative. This is the main reason why he was drawn towards non-Euclidian geometries. For Deleuze, Bernhard Riemann's *manifold* offered a chance to end the reign of not-abstract-enough *dialectics* (which like all universals explains nothing but needs explaining itself).²²⁶ The classical schism between the *essence* and the *appearance* (undermining), which in Kant gave way to the conjunctive couple of *sense/apparition* (overmining), is superseded by the *virtual/actual* coupling (becoming).²²⁷ But can sense be made of the virtual which is different not in

²²⁵ Michael Speaks, "No Hope No Fear: Theory and Practice in Contemporary Architecture" in *a+u* (No. 372, September 2001).

²²⁶ Arkady Plotnitsky: "Chaosmologies; Quantum Field Theory, Chaos and Thought in Deleuze and Guattari's What is Philosophy" in *Paragraph* (No. 29:2, 2006), pp. 40-56.

²²⁷ According to Deleuze, Kant as the true father of Phenomenology (whose logic was subsequently developed by Husserl) created completely new philosophical conceptual coordinates. The concept is no longer the essence of the thing, but the meaning of the

degree but in kind?²²⁸ This two-sidedness, the simultaneous participation of the virtual in the actual and the actual in the virtual as one arises from and returns to the other, is due to the capacity to affect and be affected. The process of individuation is thus only contingently necessary or quasi-deterministic.²²⁹

Sanford Kwinter has proposed a graphic comparison to explain the difference in the reality of *time* between the two alternative becomings. [Table xviii] In order to highlight the crucial difference between the hylomorphic technique of moulding and creative modulation he posits a simple question: what is the role of 'time' in the morphogenesis (via morphodynamics) of the ice cube as opposed to the snow flake? It is meant to demonstrate that in the former case 'time' does not effectively have a role to play:

Free crystal growth is a product of both complex nonlinear dynamics and specific constrains: geometric instabilities of water, air, temperature, and saturation gradients. Each design perfectly expresses not only the state of one of the universe's neighbourhoods during a specific interval in time but also the snow crystal's own particular historical trajectory within it. Because *the snow crystal is literally the product of 'time'*, in it growth and design are one.²³⁰
[emphasis added]

apparition. What disappeared is the problem of creation, replaced by a completely different problem of founding (Romanticism). See: Gilles Deleuze, *Cours Vincennes*; "Kant, Synthesis and Time" (March 14, 1978), <http://www.webdeleuze.com/php/texte.php?cle=66&groupe=Kant&langue=2> (accessed May 25, 2011).

²²⁸ The ideas that the world is an interrelation of movements, that stasis is movement-effect, that there is no object or subject of movement separate from the movement, and that subject-object relations are effective 'illusions' arising from 'arrests' or 'gaps' in movement, form the central theses of the philosophy of Henri Bergson.

²²⁹ For the concept of 'double capture' see: Brian Massumi, "Brian Massumi with Jason Nguyen and Mark Davis" in *Manifold: Forms of Time* (No. 2, Spring 2008), p. 12.

²³⁰ An extract from *Chapter 1: The Complex and the Singular*. See: Sanford Kwinter, *Architectures of Time: Toward a Theory of the Event in Modernist Culture*, (Cambridge, MA: MIT, 2001), pp. 26-28. No two snowflakes are alike. This discovery was made in the small rural town of Jericho, Vermont by Wilson A. Bentley (1865-1931). A self-educated farmer, Bentley attracted international attention with his pioneering work in the area of photomicrography, most notably his extensive work with snow crystals (commonly known as snowflakes). By adapting a microscope to a bellows camera, and through years of trial and error, he became the first person to photograph a single snow crystal in 1885. He would go on to capture more than 5000 snowflakes during his lifetime, not finding any two alike. His snow crystal photomicrographs were acquired by colleges and universities throughout the world and he published many articles for magazines and journals, including *Scientific American* and *National Geographic*. <http://snowflakebentley.com> (accessed May 25, 2011).

041 **Morphogenesis** The reciprocal determination of the two modes of reality - the virtual and actual - inevitably requires that a position be taken on the 'pedagogy of the senses'. The 'morphogenetic' attitude is best illustrated by I'll-know-it-when-I-see-it sequence (encounter), whereas the hylomorphic works in reverse: I'll-see-it-when-I-know-it (recognition).²³¹ This is not unrelated to the distinction made by Tschumi *qua* Bataille between the ocularcentric architecture of the Pyramid and the kinaesthetic experience of the Labyrinth.²³² In *Astrology, Protect us from what we want* (2004), Fenna Haakma Wagenaar underpins the telling difference between the philosophies of two prominent architectural practices, namely, OMA/AMO and Herzog de Meuron:

In Rotterdam (OMA) ideas are never judged before they are materialised. The intellectual level of our labour is extremely low. We generate models without censure. Rem [Koolhaas] accepts no assumptions. He only wants evidence and lots of it. Most models look clumsy and rough. We cannot spend a day building an exquisite model in the wood shop if we have to make 10 more for the next meeting.

Jacques [Herzog] needs instant perfection. He has a vision and he doesn't take shit. Even in the very first stage of the design, concepts come with built-in details and reality checks. Models must have a tangible surface. Jacques touches and examines the models as if shopping for shirts: What do you think: does this one look good on me?²³³

The respective approaches - OMA's machinic recurrence vs. Herzogian Oedipal projection - mark the difference between the 'desiring-machine' and the Oedipal apparatus. Desiring-machines themselves possess only affective states. They are

²³¹ An interesting parallel can be drawn with the observation by Vygotsky: "Young children name their drawings only after they have completed them; they need to see them before they can decide in advance what they are. As children get older they can decide in advance what they are going to draw." See: Lev S. Vygotsky and Michael Cole, *Mind in Society: the Development of Higher Psychological Processes* (Cambridge: Harvard UP, 1978), p. 28.

²³² Where there is close vision, space is not visual, or rather the eye itself has a haptic, non-optical function. Architecture is thus quite literally charging the body. In contrasting "conceived space" and "perceived space", Tschumi borrowed from Denis Hollier's book on Georges Bataille, *Against Architecture: The Writings of Georges Bataille*. The metaphorical opposition between the labyrinth and the pyramid is meant to dramatise the gap between conception and perception. See: Bernard Tschumi, "Questions of Space: The Pyramid and the Labyrinth (or the Architectural Paradox)" in *Studio International* (September/October 1975).

²³³ Fenna Haakma Wagenaar, "Astrology, Protect us from what we want" in *Content*, ed. OMA et al. (Köln: Taschen, 2004), p. 205. For a more recent 'ethnographic account of the design rhythm' in the OMA see: Albená Yaneva: *Made by the Office for Metropolitan Architecture; An Ethnography of Design* (Rotterdam: 010 Publishers, 2009).

defined by the capacity for an unlimited number of potential connections and that is what makes them machines. The machine possesses two characteristics or powers, as Guattari explains: "the machinic phylum in which a given component connects with another [...] but also the rupture in direction, the mutation such that each machine is an absolute break in relation to the one it replaces. [...] Two powers which are really only one, since the machine in itself is the break-flow process."²³⁴ According to Speaks, it is perfectly conceivable to have an avant-garde not only without a preconceived idea but even without a (utopian) project altogether. After all, what history has taught us is that no plausible futures can be determined in advance by any single idea, theory or philosophy, nor can they be constrained by negativity: "Each transformation is critical in that it refuses what exists and seeks to find alternatives."²³⁵ Indeed, this is how Koolhaas, in a rare moment of self-reflection, explains his position: "To me, it is ironic that the (I would almost use the word 'innocent') core of our activity - to reinvent a plausible relationship between the formal and social - is so invisible behind the assumption of my cynicism, my alleged lack of criticality, our apparently never-ending surrender..."²³⁶

042 **Tracing Fallacy** No architect has ever seen or built more than three dimensions of Euclidian geometry.²³⁷ It is certainly possible to think them, but not to sense them. The same also applies to two dimensions. According to the physicist Leonard Susskind we can only imagine a two-dimensional surface as embedded in three-dimensional space for which we are 'hardwired'.²³⁸ Manifold is thus reserved exclusively for the realm of thinking (Problem). Ironically, in the case of architectural design, it is usually rather impoverished as such, confined to a handful of 'dimensions' usually to do with either structural considerations or traffic and almost never with broader (cultural and social) issues. Bizarrely, this is often 'compensated' by the exuberant intricacy of the built (solution). Fake real? But to account for the possible from the actual, as we have seen, is to commit

²³⁴ See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosology*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 96-97.

²³⁵ Michael Speaks, "Alternatives to Resistance" in *Praxis: Design and Crime Forum* (No. 5, 2003), p. 21.

²³⁶ Quoted in Hal Foster, *Design and Crime: and Other Diatribes* (London: Verso, 2002), p. 62.

²³⁷ Bernard Cache, "Plea for Euclid," in *Arch'it, rivista digitale di architettura* (1998), http://architettura.supereva.com/extended/19990501/index_en.htm (accessed May 25, 2011).

²³⁸ 'Euclidian coordinates' in human sensation could be said to hark back to the bilateral symmetry that exists in all vertebrates. See: Leonard Susskind: "Beyond Einstein", *World Science Festival* (2007), <http://www.worldsciencefestival.com/video/beyond-einstein-full> (accessed May 25, 2011).

what Deleuze calls the "fallacy of tracing". It is not just unavoidably retroactive but also formalist in the pejorative sense of conflating the product with the process.

2.3 All Equally Exist, Yet Do Not Exist Equally

2.3.1 Ecology

043 **Transcendental Empiricism** Deleuze's accomplice Félix Guattari has called for the fall of the *Ontological Iron Curtain* erected between mind and matter by the philosophical tradition.²³⁹ The first step is to break from the *correlationist* circle. With his seminal *After Finitude; An Essay on the Necessity of Contingency* (2006), Quentin Meillassoux revamps the critique of representationalism.²⁴⁰ He holds Kant responsible for the instantiation of 'correlationism' whereby one only ever has access to the correlation between thinking and being, and never to either term considered apart.

+++++			
Realism	C o r r e l a t i o n i s m (C)		Idealism
(Naïve)	weak C	strong C (fideism)	(Absolute)
Dogmatic	Kant	Heidegger/Wittgenstein	Hegel
there is	there is in-itself	there might	no in-itself
in-itself	but we cannot	be in-itself	
and we can	know it		
know it			
+++++			

xix **Meillassoux's Correlationist Spectrum** (G. Harman, 2010)

According to Meillassoux's fellow speculative realist Graham Harman and his systematisation of the problem of access, Kant is considered a *weak* correlationist for not foreclosing the very possibility of existence of 'in-itself'.²⁴¹ [Table xix]

²³⁹ Pierre Levy's expression from Félix Guattari, "The new aesthetic paradigm" in *Chaosmosis: An Ethico-aesthetic Paradigm* (Bloomington: Indiana University Press, [1992] 1995), p. 108.

²⁴⁰ Meillassoux asks provocatively whether the self-proclaimed Copernican revolution of the Critical turn was not in fact a "Ptolemaic counter revolution". See: Quentin Meillassoux, *After Finitudes; An Essay on the Necessity of Contingency* (London, New York, Continuum, [2006] 2008).

²⁴¹ *Meillassoux's Spectrum* is Graham Harman's organising schema to appear in his forthcoming book on Meillassoux. The various conceptual personae from Meillassoux's *After Finitude* (2006) are placed roughly along the following spectrum, running from 'most

Harman charts a spectrum which spans from the naïve Realist (destroyed by Kant) to the absolute Idealist pole. What is conspicuously missing in Harman's (object-oriented) account is the *transcendental* empiricism which operates from the premise that there is simply much more to the world than catches the eye (and other senses), and yet this does not need to be relegated to the transcendent realm, hence the *transcendental*.

044 **Ecological Perception** Gibson's Ecological School of Perception considers art and representation as an extension and elaboration of perception and not the other way around. Therefore perception is functionally and ontologically continuous with mnemonic, imaginative and abstractive processes. It is not limited to the perpetually vanishing series of instants. Perception has a temporal extension necessarily both into the past and into the future for it involves a temporal order: constancy and change nested over time. In the same vein, cognition may be best described *not* as a sequence of logical computational states, but as a continuous trajectory through the (virtual or mental) phase space. In a word, a (non-psychological) duration. Duration, of course, is what differs from itself. For Bergson, the cuts into duration are always spatial whereby the passage is irreducible to any instantaneous state. It is what happens *between* two cuts.²⁴² Materiality is not manifested in space but rather in time: "[A]ccording to the Bergsonian formula, time signifies that everything is not given; the whole is not givable. [...] [It] has the strange power to affirm simultaneously fragments that do not constitute a whole in space, any more than they form a whole by succession within time. Time is precisely that transversal of all possible spaces, including the space of time."²⁴³ It is for this reason why deriving the possible from the actual constitutes the fundamental fallacy, a cliché of reductionism.

It is a (false) computational hypothesis that has lead mainstream AI researchers to conclude that, contrary to traditional assumptions, the uniquely human faculty of reason (conscious, intelligent, rational thought) requires very little computation, while the unconscious sensori-motor skills and instincts that we share with the animals require enormous computational resources.²⁴⁴ J.J.

classically realist' to 'least classically realist'.

<http://doctorzamalek2.wordpress.com/2010/06/10/meillassoux-spectrum/> (accessed May 25, 2011).

²⁴² Gilles Deleuze, *Cours Vincennes*; "Deleuze/Spinoza" (January 10, 1981), <http://www.webdeleuze.com/php/texte.php?cle=191&groupe=Spinoza&langue=2> (accessed May 25, 2011).

²⁴³ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 85.

²⁴⁴ The principle was articulated by Hans Moravec, Rodney Brooks, Marvin Minsky et al. in the 1980s. There is a naïveté among the artificial intelligence (AI) community who refuse

Gibson provided a striking alternative to these orthodoxies: The perplexing lack of correlation between proximal stimulation and perception may well be due to the arbitrary physical dimensions that have been chosen to describe the proximal stimulus.²⁴⁵

I have suggested that, instead of continuing to employ the careless analogies of our present loose terminology for stimuli - cues, clues, signals, signs, indicators, messages, inputs, and the like - we make a systematic study of the laws by which stimuli specify their sources. We need to know the laws of stimulus information. Almost certainly these will not be the laws which govern the transmission of information in human systems of communication. The natural world does not literally *communicate* with the sense organs. The potential physical stimuli arising from an event are not to be compared to the physical stimulus arising from the *word* for that event.²⁴⁶

According to Gibson, the right level of describing perception is *ecology*, not physics or geometry from the conventional theory of perception. Surfaces and edges are the subjects of ecological geometry, while planes and lines are the subjects of abstract geometry. A surface can be perceived; a plane can only be visualized. The physics of photons and the biochemistry of photoreceptors can be used to explain how light is emitted and propagated and how receptors are stimulated, but not how the world is perceived.²⁴⁷ The belief that philosophy and science can, or even should, aim at developing a complete conceptual vocabulary in order to explain the place of human experience in the world, was qualified by Whitehead as the 'fallacy of the perfect dictionary.'²⁴⁸ He proposes instead to adopt the attitude of conceptual openness and attunement to productivity in the sense of recognising and investigating those aspects of nature that make a difference regarding human experience. As Brian Goodwin puts it, "Organisms live their lives, they don't compute them."²⁴⁹

to reject the 'input-output' view of cognition in favour of the embodied, embedded, extended, enactive and affective (4EA) approach to the mind.

²⁴⁵ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966).

²⁴⁶ James Jerome Gibson, "The concept of the stimulus in psychology" in *American Psychologist* (Vol. 15(11), November 1960), p. 702.

²⁴⁷ For a similar account of the different ways that Newton and Goethe approach colour perception see: Arthur Zajonc, "Light and Cognition; Goethean Studies as a Science of the Future" in *Goethe's Way of Science; A Phenomenology of Nature*, ed. David Seamon and Arthur Zajonc (Albany: State University of New York Press, 1998), pp. 289-291.

²⁴⁸ John Pickering, "Affordances are Signs" in *Triple C* (Vol. 5(2), 2007), p. 68.

²⁴⁹ Brian Goodwin, "Reclaiming a Life of Quality" in *Journal of Consciousness Studies* 6 (No. 11-12, 1999), pp. 229 -236.

045 **Gestalt** The foundations of the modern study of perception have been laid down by the twentieth century school of Gestalt psychology.²⁵⁰ The German term Gestalt, meaning how a thing has been 'put together' (*gestellt*), is often translated as 'pattern' or 'configuration' in psychology. Its precepts, formulated in response to the atomistic orientation of earlier theories, emphasise that *the whole precedes the parts*. Organisms tend to perceive entire patterns or configurations rather than bits and pieces.²⁵¹ There is no one-to-one correspondence. Gibson insists that there is no such thing as sense data. This is a deep philosophical question, according to the neuroscientist Walter Freeman, of whether it is possible to discretise or atomise the manifold, which affects the definition of meaning. The usual approach, as he explains, is to postulate some kind of atom, or indivisible element of meaning, or cognitive function (cognon or lexicon), or a word, and to then think in terms of the relationship between a collection of these elements (structuralism). Essentially, the element thus postulated calls for further subdivision, which inevitably leads to infinite regression. It is the path that is taken with *symbolic* dynamics. According to Freeman, it is not even a dead-end, but a swamp:

You go out and you get buried. The real problem is that when you start looking for the meaning in these symbols you don't have it because the meaning isn't in the symbol or in the brain. It's in the relationship which is established between

²⁵⁰ The school emerged in Austria and Germany at the end of the 19th century and its main proponents were Max Wertheimer, Wolfgang Köhler and Kurt Koffka. An excerpt from the "Dialogue between Paul Rand and Rudolf Arnheim" is quite telling: "*Rand*: Is the origin of Gestalt psychology medicine or art? *Arnheim*: It's not either. There was a method in science that went back for centuries that maintained that if you wanted to deal scientifically with something, you had to cut it into its parts, describe it piece by piece, and then put the descriptions of all the pieces together to get a scientific statement. The Gestalt people found out what the artists had known for thousands of years: if you cut something into pieces you don't get a whole. If you deal with something piece by piece it won't sing, it won't cohere. All that gestalt psychology is saying is: in whatever science, whether it is medicine or biology or psychology or aesthetics, you have to deal with the structure of the whole. That's really all it is." See: Kent Kleinmann and Leslie Van Duzer, ed., *Rudolf Arnheim – Revealing Vision* (The University of Michigan Press, [1997] 2000), p. 75. Gibson's critique of the Gestalt's systematic neglect of the importance of treating all forms of stasis as limits, as special cases of flow, will be treated subsequently.

²⁵¹ The Gestalt grouping remains one of the oldest tricks in the book of architecture: proximity, similarity, closure, 'good continuation' and connectedness. They have been extensively used for facade articulation. See: Max Wertheimer, "Laws of Organisation in Perceptual Forms" in *A source book of Gestalt psychology*, ed. Willis D. Ellis (Gouldsboro, ME: The Gestalt Journal Press, [1938] 1997), pp. 71-88.

the individual and the surround in which the individual is operating. That's where it lies. Not in the signs. Venturing in that way is non-productive.²⁵²

2.3.2 Nomadic Singularities

046 **Sense** We should not fall into the trap of environmental determinism which reduces the problem to the 'private world' of the living being, or the *umwelt*.²⁵³ The capacity to attach something to the body suggests to Gibson that the boundary between the organism and the environment is not fixed at the surface of the skin but can shift: "More generally it suggests that the absolute duality of 'objective' and 'subjective' is false."²⁵⁴ One just needs to recall Merleau-Ponty's beautiful example of how the feather in the hat makes one stoop in the doorway.²⁵⁵ Not to mention the ubiquitous human-car assemblage of today.²⁵⁶ Gibson eventually distanced himself from the Gestaltist approach. Its major figure, Kurt Koffka, proposed a 'resolution' of the subject/object binary by reintroducing the dualism of what he called the behavioural and geographical environments. We do not perceive the real environment, Koffka argued, but the

²⁵² Walter Freeman: "A Field-theoretic Approach to Understanding Neocortex", *Debate: Waves or words in cortex?* (Redwood Center For Theoretical Neuroscience, 2005).

²⁵³ The concept of "environment" was first used by the biologist Jakob von Uexküll in 1909 (*Umwelt und Innenwelt der Tiere*, 1921).

²⁵⁴ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 41. See also: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 101. "The surface of an organism, it should be remembered, is actually a boundary between the organism and its environment, and the boundary is not always everywhere as clean-cut as the hairless human philosopher tends to think." See also: John Dewey, *Art as Experience* (New York: Perigee, [1934] 2005), p. 61. "The epidermis is only in the most superficial way an indication of where an organism ends and its environment begins. There are things inside the body that are foreign to it, and there are things outside of it that belong to it *de jure* if not *de facto*; that must be taken possession of if life is to continue."

²⁵⁵ "A woman may, without any calculation, keep a safe distance between the feather in her hat and the things which might break it off. She feels where the feather is just as we feel where our hand is. If I am in the habit of driving a car, I enter a narrow opening and see that I can 'go through' without comparing the width of the opening with that of the wings, just as I go through a doorway without checking the width of the doorway against that of my body. [...] Habit expresses our power of dilating our being in the world, or changing our existence by appropriating fresh instruments." See: Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, [1945] 2006), pp. 165-166.

²⁵⁶ See: James Jerome Gibson and L.E. Crooks, "A Theoretical Field-Analysis of Automobile-Driving" in *American Journal of Psychology* (51, 1938), pp. 453-471. "Within the boundaries of the road lies [...] an indefinitely bounded field which we will name the *field of safe travel*. It consists, at any given moment, of the *field of possible paths which the car may take unimpeded*. Phenomenally it is a sort of tongue protruding forward along the road." [emphases in the original]

phenomenal environment. His distinction between the two, adopted by many phenomenologists, was regarded by Gibson as simply unattainable. It merely transferred the body/mind problem to the dualism of the real/phenomenal (or mentally represented) environment. We need not question the ontological status of affordances. They are real through and through (even if incorporeal). To escape the phenomenism of the bounded organism, and the meaning that it bestows on *its* world, we need to draw on the passive vitalist 'reversal' that puts *sense* before and beyond meaning, and before and beyond the organism altogether.²⁵⁷ Sense is inseparable from a play of resonances and coupling. Indeed, from this perspective, classical phenomenology is in fact better described as epi-phenomenology.²⁵⁸ Instead, one should always start from the middle.²⁵⁹ To start from the middle is not to perform a phenomenological reduction. In his *Logic of Sense*, Deleuze defines sense as the boundary between propositions and things.²⁶⁰ While meaning has traditionally come to be defined as given in terms of an organism's perceptions governed by 'intentionality', sense is impersonal, neutral, sterile and inorganic.²⁶¹ Claire Colebrook explains this crucial insight as the expansion of sense beyond its localisation in humans:

Indeed, there are organisms – or systems of relatively stable relations – *because of sense, which is the potentiality for relations that exceeds and transcends any lived meaning*. There is not an originally bounded body coupled to a world that is always a world given as lived and meant; *the organism is only possible because of events of sense* – or pre-personal and nomadic singularities. It is true that a body and world are coupled and effected through certain relations, such as eating, moving, retreating, marking and communication; an organism is this bordered structure of actions in relation to possible perturbances, or what might be referred to as a range of affordances. But an organism is only possible

²⁵⁷ In French, *sense* fittingly has a threefold sense: sensibility, signification and direction.

²⁵⁸ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 52. Husserl defined phenomenology as the study of intentional content remaining in the mind after the bracketing of the world, that is, after 'phenomenological reduction'. But for Deleuze the phenomenologist began with an already constituted, phenomenal and anthropological subject.

²⁵⁹ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 63.

²⁶⁰ Perhaps one could extend this qualification to the boundary between Foucault's *Things and Words*; Lyotard's *Discourse and Figure* and Bergson's *Matter and Memory*. See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 22.

²⁶¹ "[W]e never say what we see and never see what we say. The visible bursts out between two propositions, and an utterance bursts out between two things. Intentionality gives way to a whole theater, an endless interplay between the visible and the utterable. Each breaks open the other." See: Gilles Deleuze, "A Portrait of Foucault" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), pp. 107-108.

because of the pure sense of events; *it is because of a pure event, not yet actualized in any body, that the border forms between an inside and an outside.*²⁶² [emphases added]

047 Flat Ontology Our task remains twofold: We have to break the *correlationist* circle because of its parochial anthropocentrism and at the same time - albeit for the seemingly opposite reason - land on the ecological level of reality.²⁶³ Are they mutually exclusive? The answer is no, because all things equally exist, yet they do not exist equally. Or as Deleuze put it: "Being is said of everything that is, that is equal. With that it doesn't prevent there being differences between beings."²⁶⁴ The first part is the main tenet of flat ontology. In the words of DeLanda: "[W]hile an ontology based on relations between *general* types and *particular* instances is hierarchical, each level representing a different ontological category (organism, species, genera), an approach in terms of interacting parts and emergent wholes leads to a flat ontology, one made exclusively of unique, singular individuals, *differing in spatio-temporal scale* but not in ontological status."²⁶⁵ [emphases added] Thus the relationship between species and organisms is not a relationship between the universal or essence that is eternal and unchanging and the particular or the organism as an instance of the species. Rather, both species and organisms are *individuals* that are situated in time and space. To put it simply, any individual is as contingent as the species, or genera.

The second part, "they do not exist equally," requires that we turn our attention to a particular spatio-temporal scale, that of ecology. There is nothing inconsistent about landing on the ecological level as we do not grant it a special ontological status. Instead, we are interested in the morphogenetic capacity of the *mesoscale* to produce singular forms of life. Let us refer to such an approach as 'strategic anthropocentrism'. This is not yet another

²⁶² Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010), p. 4.

²⁶³ Gins and Arakawa use their concept of 'landing site' to address the interaction between processes of perception and imagination as part of the body and their relations to the organism-person-environment. They commence with the notion of something "being apportioned out" to enable a world to be formed. Even though their argument is based on a human-centred and phenomenological encounter, the concept of landing sites enhances a further understanding of how bodies relate to each other and what a body can do. See: Madeline Gins and Shūsaku Arakawa, *Architectural Body* (Tuscaloosa: Alabama UP, 2002), pp. 5-22.

²⁶⁴ Gilles Deleuze, *Cours Vincennes*; "Deleuze/Spinoza" (December 12, 1980), <http://www.webdeleuze.com/php/texte.php?cle=23&groupe=Spinoza&langue=2> (accessed May 25, 2011).

²⁶⁵ Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 47.

postmodern *nominalist* caution to avoid totalisation and similar. It is much more substantial. If species are not eternal essences or forms defining what is common to all particulars of that species, if they exist in space and time, then this is the case because species - as conceived by biology - are not *types*. Rather, they are really existing reproductive *populations* located in a particular geography at a particular time. This, in turn, requires that causal problems be framed at the 'correct' level, given that each emergent level has its own causal capacities which differentiate individuals from each other.

In the case of territorial organisms, it is the very under-determination of territories by the genetic code that allows for environmental induction: "It is because there is a *disjunction* between the territory and the code that the territory can *indirectly* induce new species."²⁶⁶ [emphases added] It may even be that it is not as indirect as we have thought. The decoding of the human genome nearly a decade ago fuelled expectations that an understanding of all human hereditary influences was within sight. But the connections turned out to be far more complicated than imagined. What has since emerged is a new frontier in the study of genetic signalling known as epigenetics, which holds that the behaviour of genes can be modified by environmental influences and that those changes can be passed down the generations.²⁶⁷ Geneticists are quietly acknowledging that we may have too easily dismissed an early naturalist who anticipated modern epigenetics and whom Darwinists have long disparaged. Jean-Baptiste Lamarck (1744-1829) argued that evolution could occur within a generation or two. According to Philip Steadman, the theory of Darwin is an 'elective' theory of evolution, where the environment chooses appropriate changes in organism from the range offered by variation. By contrast, Lamarckism is an 'instructive' theory where the environment is imagined to be able to exercise a direct effect on organisms and 'teach' them to change themselves in appropriate ways.²⁶⁸ This revelation is paramount for the 'niche constructionists' or those in the business of associating milieus - architects and urbanists.

Nevertheless, we have to be wary of any overdetermination.²⁶⁹ Famously, Nietzsche was critical of Darwin's all-too-adaptive paradigm. After all, it is

²⁶⁶ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 52.

²⁶⁷ John Cloud, "Why Your DNA Isn't Your Destiny" in *Time Magazine* (January 6, 2010).

²⁶⁸ Philip Steadman, "The Consequences of the Biological Fallacy; Functional Determinism" in *The Evolution of Designs: Biological analogy in architecture and the applied arts* (London, Routledge [1979] 2008), pp. 179-200.

²⁶⁹ The sociologist Richard Sennett consequently warns against the 'Brittle City', the result of over-determination. The Brittle City is a symptom. It represents a view of society itself as a closed system. See: Richard Sennett: "The Open City" in *Urban Age* (Berlin, November

thanks to the 'leeway' between the level of genes and the level of organism (epistrata) on the one hand, and the 'elbow-room' between the organism and the cosmos (parastrata) on the other, that the new is produced (including the *will to power*):

The ideally continuous belt or ring of the stratum - the Ecumenon defined by the identity of molecular materials, substantial elements, and formal relations - exists only as shattered, fragmented into epistrata and parastrata that imply concrete machines and their respective indexes, and constitute different molecules, specific substances, and irreducible forms.²⁷⁰

What we need to account for are the workings of those concrete (abstract) machines. In his paper "On Being the Right Size," the geneticist and biometrist J.B.S. Haldane illustrates why it would be impossible to *linearly* re-scale a small animal into a large one and vice versa.²⁷¹ "Haldane's principle" - as it came to be known - is especially pertinent for architects whose lightness of scaling up (and down) is often unbearable. It is a matter of distinguishing between intrinsic and extrinsic properties. An intrinsic property is a property that an object or a thing has of itself, independently of other things, including its context. By contrast, an extrinsic property is a property that depends on a thing's relationship with other things. For example, mass is a physical intrinsic property of any object, whereas weight is an extrinsic property that varies depending on the strength of the gravitational field in which the object is placed. A simple thought experiment by Haldane will suffice: Consider a giant man nineteen metres high. This monster is not only *ten* times (x 10) as high as an average person, but ten times as wide and ten times as thick, so that his total weight is a *thousand* (x 1000) times that of an average person, or about eighty to ninety tons. Unfortunately the cross sections of his bones are only a *hundred* (x 100) times those of an average man, so that every square centimetre of giant bone has to support ten times the weight borne by a square centimetre of human bone. As the human thigh-bone breaks under about ten times the human weight, the giant will break his thigh-bone every time he takes a step.

2006). <http://www.urban-age.net/introduction/investigation/housingAndNeighbourhoods/> (accessed May 25, 2011).

²⁷⁰ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 322. It could be argued that in contrast to *Difference and Repetition* (1968) where the focus is on individuation as actualisation of the virtual, *A Thousand Plateaus* (1980) is about a "flat ontology" of *different rhythms* of intensive processes, including environmental induction.

²⁷¹ J.B.S. Haldane, "On Being the Right Size" in *Cabinet Issue 28 Bones* (Winter 2007/08), <http://www.cabinetmagazine.org/issues/28/haldane.php> (accessed May 25, 2011).

Therefore, it is obvious that the universal vs. particular models and their *logical* relation need to be replaced with the *real* and merely contingently obligatory account of *eco-logical* becoming.²⁷² In her recent interview Isabelle Stengers makes a most suggestive case for the 'meso':

The idea of the 'meso' is quite new in physics. Microphysics is well known, it's the stuff of physicists' dreams. The macro in physics is also familiar, it's crystals, liquids, and bodies that can be characterized by general, measurable properties. But the meso is neither of these. *It concerns not matter, but material*. Why does glue stick? Why do metals tend to stress and break? This is a science of the interstices and the cracks. It's a science of defects. It is the kind of science where it is always a question of this material, rather than Matter, and which encounters 'procedures', like those of metallurgy. Why must the iron be beaten as long as it is hot? The macro is matter in general. Gas is marvellously 'in general'. With the meso, on the other hand, it is necessary in each instance to redefine topically how the relations between the micro and the macro are assembled. In other words, *it's about everything that the macro does not allow to be said, and everything that the micro does not permit to be deduced.*²⁷³ [emphases added]

048 **Meso-Scale** Insofar as things do not exist equally, the account of individuation at the mesoscale of ecology is singular and cannot be explained away by some overarching theory of everything. The environment has multiple levels of structure with smaller units embedded in larger units and, as such, it cannot be reduced to a single level of description.²⁷⁴ Traditionally, it is broken down into matter, energy, and the interaction of elementary particles. This is the Newtonian concept of the physical world. If we move to the level of *ecological* relationships,

²⁷² See: Robert L. Solso, *Cognition and the Visual Arts* (Cambridge, MA: MIT, 1994), p. 45. "Had the range of sensitivities of the sensory system experienced even a slightly different evolution, the brain and the entire intellectual history of humankind would be radically different. [...] If we humans could see between 475 and 875 nm, the impact on our cognitive world would be tremendous. We would lose our awareness of very dark purples, but would gain sensitivity to infrared rays. [...] What colors would we use to represent royalty?"

²⁷³ Interview with Isabelle Stengers by Brian Massumi and Erin Manning "History through the Middle: Between Macro and Mesopolitics" in *iNFLeXions* (No. 3, 2008), http://www.senselab.ca/inflexions/volume_3/node_i3/stengers_en_inflexions_vol03.html (accessed May 25, 2011).

²⁷⁴ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 9. "Units are nested [...] The size-levels of the world emphasized by modern physics, the atomic and the cosmic, are inappropriate for the psychologist. We are concerned here with the things at the ecological level, with the habitat of animals and men, because we all behave with respect to things we can look at and feel, or smell and taste, and events we can listen to, the sense organs of animals, the perceptual systems (Gibson 1966), are not capable of detecting atoms or galaxies."

we encounter substances, (non-isotropic) media, surfaces, and surface layout. This level is described in Gibson's opaque 'solid geometry'. The earth is an object relative to astronomy, but it is a surface relative to animate life. Hence Meillassoux: "We only live at one scale of matter - immensely vaster than that of the atom, and immensely less vast than that of galaxies. We thus occupy a scale of durations, a particular rhythm of the current of time, which renders us unconscious of all events below two millionths of a second, whereas such a duration is sufficient for luminous matter to produce millions of vibrations, that is to say millions of distinct events."²⁷⁵ We have to bear in mind that it is not only action (movement) that succumbs to Haldane's principle, but also perception. Consider a thought experiment by the eminent physicist Erwin Schrödinger, this time going in the opposite direction, below the mesoscale. If we were to shrink so much as to be not only affected by the force of gravity but also susceptible to the impact of molecules we would be knocked about performing a very irregular Brownian movement: "This example shows what funny and disorderly experience we should have if our senses were susceptible to the impact of a few molecules only".²⁷⁶

There is both a spatial and temporal "nesting" where - or rather when - the events of shorter duration are embedded in those of longer duration.²⁷⁷ The

²⁷⁵ Quentin Meillassoux, "Subtraction and Contraction: Deleuze, Immanence, and *Matter and Memory*" in *Collapse: Unknown Deleuze* (Vol. III, November 2007), pp. 63-107. See also: James Jerome Gibson: *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p 21. "Some thinkers, impressed by the success of atomic physics, have concluded that the terrestrial world of surfaces, objects, places, and events is a fiction. They say that only the particles and their fields are "real" [...] But these inferences from microphysics to the perception of reality are thoroughly misleading. The world can be analyzed at many levels, from atomic through terrestrial to cosmic. There is physical structure on the scale of millimicrons at one extreme and on the scale of light years at another. But surely the appropriate scale for animals is the intermediate one of millimeters to kilometers, and it is appropriate because the world and the animal are then comparable."

²⁷⁶ See: Erwin Schrödinger, "What is life? The Physical Aspect of the Living Cell", based on lectures delivered under the auspices of the Dublin Institute for Advanced Studies at Trinity College, Dublin, 1943.

²⁷⁷ This view of veridicality calls for a definition of the truth-about-the-environment that is not metaphysical (always and for everyone), but pragmatic (useful for a particular someone on a given occasion). See: Claire F. Michaels and Claudia Carello, *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 90. This is akin to the concern recently voiced by Bruno Latour: "[S]hould we show an object with all of the attachments that make it possible? Or should we delineate the object to such an extent that it shines like a brightly lit foreground over a shadowy background? In the first case, we are dealing with things in the old etymological sense of issues, *matters of concern*, that which forces people to assemble around what they disagree about and what they nevertheless have in common. In the second case, we are dealing with objects – with what is out there,

roboticist Dana Ballard thus asserts that vision depends on the world being sufficiently stable so that behaviours can be executed on demand. According to him, it is perhaps this *ability to conduct behaviours* - or in our terms Gibson's *affordances* - which provides the illusion of stable perception:

Animate systems that rapidly change their coupling with the real world place a premium on maintaining elaborate representations of the world. However, it may be the case that memorizing such representations is unnecessary, since they can be rapidly and incrementally computed on demand.²⁷⁸

The point may be as difficult as it is counterintuitive. Nevertheless, the claim that all beings equally exist is *not* the claim that all beings are the *same*. It is only from this ecological point of view that talking about overmining and undermining makes sense at all. There can be neither one nor the other in the flat ontology where all things equally exist. The flatness of flat ontology is first and foremost the refusal to treat one strata of reality as the really real over and against all others. This is only seemingly contradictory. To put it bluntly, there are multiple levels of reality, all equally real, with no hierarchy, and yet each with its own (variable) quasi-determination not by eternal laws but by its own dynamics. It is important not to homogenise various levels of practice or to make connections between them under some transcendental supervision, as Guattari emphasises, but to engage them instead in processes of heterogenesis (and not merely autopoiesis).²⁷⁹ It is necessary to bracket off both the overmined and undermined at the ecological level of reality if we want to avoid the fallacy of misplaced concreteness. It is essential for bringing it to the abstract *concretely*, that is, for accounting for the *real* (quasi)causal powers. This is what J.J. Gibson's project was all about: everything that the micro does not allow and the macro does not permit. This in turn will allow for the speculation on architectural

unquestionable, mastered, known, that which can be taken as a *matter of fact*. This is a choice of philosophy, of politics, but also of art and of design. Thus it's a problem of civilization." See: Bruno Latour, "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern", <http://criticalinquiry.uchicago.edu/issues/v30/30n2.Latour.html> (accessed May 25, 2011).

²⁷⁸ See: Dana H. Ballard, "Animate Vision" in *Artificial Intelligence Journal* (Vol. 48, 1991), p. 83. "One can think of many other cases that challenge traditional notions of invariance. For example, we do not think of our coats as being rigid objects, yet they appear to be to our visual systems while they are hanging on coat racks, and this limited invariance can be exploited. The hope is that such algorithms may be able to discover which combinations of such features work in each problem instance. *It could be the case that the general assumptions that define categories are almost never as useful as the special assumptions found by adaptive algorithms.*" [emphasis added]

²⁷⁹ Félix Guattari, *The Three Ecologies* (London: Continuum, [1989] 2008), p. 51. "Unlike Hegelian and Marxist dialectics, eco-logic no longer imposes a 'resolution' of opposites."

form that will go beyond the dichotomy of familiarity without recognition of the *pictorial*, and recognition without familiarity of the *symbolic*.²⁸⁰ In other words, what we are after is neither *déjà vu* nor *jamais vu*, but the reciprocal determination of the virtual and actual which is the topic of the next chapter.

²⁸⁰ Jeffrey Kipnis, "What We (Got) Need is - Failure to Communicate!!" in *Quaderns* (Vol. 245, April 2005), pp. 96-98. According to Kipnis, the discipline of architecture has relied on two distinct referential possibilities *vis-à-vis* form: "the pictorial (a representational effect most notoriously manifest in *architecture parlante*, in which an architectural form imitates a reality from another domain) and the significant, which includes the symbolic, in which a historic accumulation of use and tradition imbue an architectural form or organization with sufficient density for the form itself effortlessly to open lines of meanings, interpretations, associations and allusions within the field, as in *palazzo*, a nine-square grid, a classical column or a formal sheer."

Chapter Three N MINUS ONE

*Enough! Enough with retinal painting!*¹
(M. Duchamp)

*If you want the correct explanation
Why embryos grow into men
The Alsatian begets an Alsatian
A hen's egg gives rise to a hen
Why insects result from pupation
Why poppies grow out of a seed
Then just murmur 'canalization'
For that is the word that you need.
Chorus: Then three cheers for canalization
Oh, come on now, hip hip hooray
A stiff dose of canalization
Will drive all your troubles away*²
(Dedicated to C. Waddington, 1955)

¹ Not only did Marcel Duchamp express disdain for pictures whose only purpose was to stimulate and be pleasing to the eye but he also felt a more substantial anxiety toward the visual, which resonates both with the critique of the 'pictorialisation of the world' (Heidegger) and of the 'ontologies of (pure) presence' (Derrida). As quoted in Sanford Kwinter, "Difficulty and Innovation" in *Concepts: The Architecture of Hope* (Harvard Design Magazine No. 19, 2003/2004), p 3.

² The song 'Magic Words' sung to the tune of *Mush Mushalorum* by Conrad Waddington's colleagues on the occasion of his fiftieth birthday. Published in the obituary by Alan Robertson, "Conrad Hal Waddington 1905-1975", *Bibliographical Memoirs of Fellows of the Royal Society* (Vol. 23, 1977), p. 583.

3.1 Rheologist Legacy

3.1.1 Architecture

049 **Visible and Invisible** In April 2009, *Harvard University Graduate School of Design* organised a conference on ecological urbanism where Rem Koolhaas of OMA delivered the keynote lecture. Through a historical overview stretching from Vitruvius to Renaissance to the Enlightenment to the present day, Koolhaas identified two opposed outlooks in architectural design *vis-à-vis* nature - those of (mechanicist) dominance and (organicist) submission. Halfway through the lecture he showed a graph depicting the financial downturn that 'broke the symmetry'³:

What about architecture? What the crisis will mean for us is an end to this regime. For those who did not realise this is a collection of masterpieces by senior architects in the last ten years. A skyline of icons showing mercilessly that an icon can individually be plausible but collectively they form an utterly counterproductive and self-cancelling landscape. So, that is out!⁴ [The audience laughs].

The message could not be clearer. No more false dialectics between 'natural' Wright and 'cultural' Mies! It won't do. Slide One - *Falling Water*.⁵ Slide Two - *Farnsworth*.⁶ Slide Three - an anonymous vernacular house [*sic*] seen through thermal vision goggles. How are we to interpret the third image? Is this yet

³ 'Symmetry breaking' describes a phenomenon in physics where (infinitesimally) small fluctuations, acting on a system crossing a critical point, decide a system's fate by determining which branch of a bifurcation is taken. For an outside observer unaware of the fluctuations (the 'noise'), the choice will appear arbitrary. This process is called symmetry 'breaking', because such transitions usually bring the system from a disorderly state into one of two states. Since disorder is more symmetric in the sense that small variations do not change its overall appearance, the symmetry gets 'broken'.

⁴ The conference entitled *Ecological Urbanism: Alternative and Sustainable Cities of the Future* (April 3-5, 2009) gathered design practitioners, students and theorists, economists, engineers, environmental scientists, politicians and public health specialists, with the objective of gaining a more robust understanding of ecological urbanism and what it might be in the future. <http://ecologicalurbanism.gsd.harvard.edu/> (accessed May 25, 2011).

⁵ Falling water or Kaufmann Residence is a house designed by American architect Frank Lloyd Wright in 1935 in rural south-western Pennsylvania. It was built partly over a waterfall.

⁶ The Farnsworth House was designed and constructed by Ludwig Mies van der Rohe between 1945 and 1951. It is a one-room weekend retreat in a once-rural setting, southwest of downtown Chicago. The steel and glass house was commissioned by Dr. Edith Farnsworth.

another attempt to shift our attention from 'cultural form' towards 'urban substance'? In an interview with Robert Venturi and Denise Scott Brown, Koolhaas notes how in their *Learning from Las Vegas* (1977) a shift from substance to sign arose precisely when he himself was trying to decipher the impact of substance on culture in what was to become *Delirious New York; A Retroactive Manifesto for Manhattan* (1978).⁷ But now the wager seems raised, in that the classical logic of taxonomy is displaced from the visible into the invisible domain. This effectively ends the linear (retroactive) causality between the content and form. Form cannot be explained purely in terms of spatial relations without recourse to a transcendental principle that lies outside the (actual) system. In other words, drawing homologies between the (discrete) 'engendered' and the (continuous) 'engendering' is but a resuscitation of the representational approach. Its tautological nature simply precludes any accountability of emergence.⁸

050 Geometry as Cultural Reference The non-representational alternative requires a great leap of imagination. It requires no less than an entirely new logic which is to complement the old logic of discreteness. Thinking the continuum calls for a 'logic of sense' where 'sense' in Deleuze could be said to stand for significance.⁹ It is not an order imposed on an undifferentiated world; rather sense is the *result* of bodies and their encounters, the expression of relations. As a condition of real experience, sense cannot be 'wider' than the experience itself as would be the case if it were a condition of possible experience (also known as categories).¹⁰ Its principle is therefore plastic, it changes with the changing experience. *Sense refers neither to an object nor a concept but is what produces the very object.* To put it simply: the 'object' is constituted by the Idea and the Idea by the passive synthesis. The Idea here is meant not in the Kantian regulative sense of ideal, but rather as 'problematic'.

⁷ See: Rem Koolhaas and Hans Ulrich Obrist, "Re-Learning from Las Vegas; interview with Robert Venturi and Denise Scott Brown" in *Content*, ed. OMA et al. (Köln: Taschen, 2004), p. 150. "I sensed in your book a pair of architects who, in spite of their love of architecture, were horribly fascinated by its opposite - while I was becoming fascinated by architecture, coming from its opposite."

⁸ Foucault employs 'archaeology' to demonstrate how scientific knowledge is dependent on the prevailing *epistemes* of a culture at particular moments in time. Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Routledge Classics, [1966] 2002).

⁹ According to Protevi, the French 'sense' has quite "fittingly" a three-fold definition: sensibility, signification and direction. See: John Protevi, *Political Affect: Connecting the Social and the Somatic* (Minneapolis: Minnesota UP, 2009), p. 16.

¹⁰ Categories are "like baggy clothes, [...] much too big." See: Gilles Deleuze, *Bergsonism*, (New York: Zone, [1966] 1988), p. 44.

As Claire Colebrook cautions, our subject/predicate structures or the very form of our logic, lead us to think of a being, substance or ground that *then* bears a certain predicate.¹¹ The question of metaphysics has always been that of the ground (*grund*), as the architecture theorist Mark Wigley recalls: "Its history is that of a succession of different names (*logos, ratio, arche*, etc.) for the ground. Each of them designates 'being', which is understood as presence. [...] 'supporting presence' for an edifice."¹² In other words, before the enquiry even begins, the subject is already determined as something that endures above and beyond its transitory predicates and is therefore prevented in advance from affirming the original movement through which the subject itself is affected. The cure is to bracket 'natural perception' in which every thing appears as an already constituted body, quality or action:

To make the body a power which is not reducible to the organism, to make thought a power which is not reducible to consciousness.¹³

Deleuze's aim is to deterritorialise the cogito or to deregulate thought in such a way as to unleash it from the referential rudiment of traditional philosophy, that is, contrariety, similitude, identity, analogy.¹⁴ To affirm chance as an impossible whole is, according to Ray Brassier, to sacrifice one's own subjective identity. Otherwise, that identity would persist independently of the affirmation as a possibility separate from the whole.¹⁵ Whether we are individuals or groups, according to Deleuze, we are made up of lines and these lines are greatly varied in nature. The first kind of line which forms us is of a rigid clearly-defined segmentarity. It depends on binary machines (man-woman, child-adult, public-private, ours-another's), or dichotomies (if you are neither *adult* nor *male* you are a *girl*). This is a 'sedentary line' whose tendency of overcoding may prove dangerous.¹⁶ At the same time, we have lines which are much more supple or molecular, as it were:

¹¹ Claire Colebrook, *Philosophy and Post-Structuralist Theory: From Kant to Deleuze* (Edinburgh: Edinburgh University Press, 2005), p. 228.

¹² Mark Wigley, "The Translation of Architecture, the Production of Babel" in *Architecture Theory Since 1968*, ed. Michael K. Hays (Cambridge, Mass: MIT, 1998), pp. 658-675.

¹³ See: Gilles Deleuze and Claire Parnet, *Dialogues* (New York: Columbia UP, [1977] 1987), p. 62.

¹⁴ Gregory Flaxman, *The Brain is the Screen: Deleuze and the Philosophy of Cinema* (Minneapolis: University of Minnesota, 2000), p. 3.

¹⁵ Ray Brassier, "Stellar Void or Cosmic Animal? Badiou and Deleuze on the Dice-Throw" in *Pli* (No. 10, 2000), pp. 200-216.

¹⁶ See Young's critique of Merleau-Ponty's presumed non-gendered body subject: Iris Marion Young, "Throwing Like a Girl" in *On Female Body Experience: "Throwing Like a Girl" and Other Essays* (Oxford: Oxford UP, 2005).

It's not that they are more intimate or personal - they run through societies and groups as much as individuals. They trace out little modifications, they make detours, they sketch out rises and falls: but they are no less precise for all this, they even direct irreversible processes. But rather than molar lines with segments, they are molecular fluxes with thresholds or quanta. *A threshold is crossed, which does not necessarily coincide with a segment of more visible lines.* Many things happen on this second kind of line - becomings, micro-becomings, which don't even have the same rhythm as our 'history'.¹⁷ [emphasis in the original].

This is a 'migrant line' that oscillates between the two extremes: the 'sedentary' and 'nomadic' lines; the actual and the virtual. Clearly, a whole new vocabulary needs to be invented, as well as a new set of conceptual tools. Geometry becomes indispensable. Apart from being a branch of mathematics, geometry has always been a mode of rationality. Cache argues that it should be taken as a cultural reference.¹⁸ This is no trivial matter, as we may depend upon a 'different rationality' where the 'law of the excluded middle' is vehemently rejected (where Schrödinger's cat is both dead and alive).¹⁹ The distinction between linear and nonlinear systems thus becomes fundamental. It constitutes what is arguably the single most important conceptual development in contemporary sciences. Whereas linear systems adhere to the 'superposition principle', nonlinear systems succumb to no such simple addition of quantities. This is important if we want to avoid the fallacy of (mere) linear causation. For example, Poincaré discovered, to his dismay, that the mechanics of no more than three moving bodies bound by a single relation of gravity and interacting in a single isolated system produced such complex behaviour which no differential equation, either known or possible, could ever describe.²⁰ The 'three-body problem', as it came to be known,

¹⁷ See: Gilles Deleuze and Claire Parnet, *Dialogues* (New York: Columbia UP, [1977] 1987), p. 124. See also: Gilles Deleuze, "The Interpretation of Utterances" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 92. "There are not two sexes, there are n sexes; there are as many sexes as there are assemblages."

¹⁸ Peter Macapia's interview with Bernard Cache in (Saint Ouen l'Aumône, June 2008). Cache and Macapia discuss several conceptual changes in the contemporary use of geometry in the field of architecture. <http://www.adrd.net/crowdcast/video/11.html> (accessed May 25, 2011).

¹⁹ A term taken from Scott Lash's book of the same title *Another Modernity: A Different Rationality* (Oxford: Blackwell Publishers, 1999).

²⁰ Sanford Kwinter, "Landscapes of Change: Boccioni's Stati d'animo as a general Theory of Models" in *Assemblage* (No. 19, 1992), p. 52. "[T]ransformation and novelty were the irreducible qualities that any theory of form would need to confront". See also: Arkady Plotnitsky: "Chaosmologies; Quantum Field Theory, Chaos and Thought in Deleuze and

triggered a whole new approach to problem-solving that no longer focused on the solution but on framing the (space of the) problem which would then 'yield' solutions.²¹ This is to say that Poincaré by-passed exact solvability as a way of getting global information and used instead a novel method to investigate the space which defines the problem itself.²² The geometry fit for the purpose has been with us for over a century and is called 'topology'. While both geometry and topology are concerned with space, they are distinguished by their different mathematical provenances, as the mathematician Arkady Plotinsky explains. While geo-metry has to do with measurement, topology disregards it and deals only with the structure of space *qua* space. As long as one deforms a given figure continuously - without separating the points previously connected and, conversely, without connecting the points previously separated - the resulting figure is considered the same.²³ The most common example is the topological isomorphism between a doughnut and a mug. From a topological point of view they are exactly the same. Although this particular example has been repeated *ad nauseam*, any objects with a single hole would do. Topology may be considered as the most 'general' geometry whose suitability for thinking the (intensive) relation independent of its (metric) terms cannot be overstated. Its current appeal for architects solely at the formal level is, while perhaps inevitable, also regrettable as it rarely goes beyond (bio)mimicry.²⁴

Consider Kees Doevendans' recent upgrading of Antony Vidler's 1977 classic *The Third Typology*.²⁵ Vidler discovered the 'first typology' in the famous

Guattari's 'What is Philosophy' in *Paragraph* (No. 29:2, 2006), p. 45. Plotinsky explains that causal theories need not be deterministic. Areas of physics such as thermodynamics or chaos theory complicate the situation by introducing chance, that is, a degree of chaos as chance into the picture: "These theories are not deterministic, even in ideal cases, in view of the great structural complexity of the systems they consider. This complexity blocks our ability to predict the behaviour of such systems, either exactly or at all [...]."

²¹ In astronomy, the 'three-body problem' is the problem of determining the motion of three celestial bodies moving under no influence other than that of their mutual gravitation. No general solution to this problem (or the more general problem involving more than three bodies) is possible.

²² Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 154.

²³ Arkady Plotinsky, "Algebras, Geometries and Topologies of the Fold: Deleuze, Derrida and Quasi-Mathematical Thinking (with Leibniz and Mallarmé)" in *Between Deleuze and Derrida*, ed. Paul Patton and John Protevi (New York: Continuum, 2003), p. 99.

²⁴ The same concern is expressed by Sanford Kwinter in "A Discourse on Method" in *Explorations in Architecture*, ed. Reto Geiser (Basel: Birkhäuser, 2008), p. 46.

²⁵ Antony Vidler, "The Third Typology" in *Architecture Theory Since 1968*, ed. Michael K. Hays (Cambridge, Mass: MIT, 1998), pp. 284-294.

primitive hut of Abbe Laugier.²⁶ *Nature* was identified as the model for architecture. The 'second typology' coincided with industrial development. The *machine* was chosen as the model for architecture and figured as its legitimising agent. The 'third typology' introduced in the 1960s by the Italian Neo-Rationalists marked a break with the idea that architecture and urban design had to seek external legitimacy.²⁷ Instead of the metaphorical approach of representing the city as either natural - organicist fallacy - or mechanical - mechanicist fallacy - the emphasis was put on the city as form. Thus it was apparently the third typology that led to an 'ontology of the city' - essentialist fallacy - which was to be found in its morphology as passed down through history. Doevendans himself contributes *The Fourth Typology*.²⁸ Notwithstanding his qualification to consider it in terms of a Kuhnian paradigm, the proposed 'Typology of Topology' must be challenged as a symptomatic case of category error.²⁹ This is not a matter of pedantry. By its very nature, topology does not lend itself to typologising and it is this elusiveness that endows it with the greatest conceptual power. In the words of Cache:

One single topological structure has an infinity of Euclidean *incarnations*, the variations of which are not relevant for topology, about which topology has nothing to say. New topological structures can be incarnated in Euclidean space as squared figures as well as curved figures. Topology cannot be said to be curved because it precedes any assignment of metrical curvature. Because topological structures are often represented with in some ways indefinite curved surfaces, one might think that topology brings free curvature to architecture, but this is a misunderstanding. When mathematicians draw those kinds of free surfaces, they mean to indicate that they do not care about the actual shape in which topology can be incarnated. In so doing, *they should open the mind of architects and allow them to think of spatial structures before styling them as*

²⁶ Although the primitive hut had been the standard in architectural theory since Vitruvius, Abbe Laugier revamped the idea. An image of the hut appeared as the frontispiece for the second edition of his *Essay on Architecture* (1755).

²⁷ See: Aldo Rossi, *The Architecture of the City* (Cambridge, MA: MIT, 1982). Rossi's book had sketched out the concept of Rational Architecture further developed in the book *Architettura Razionale*, published in 1973 on the occasion of the XV Milan Triennale. In Massimo Scolari's view, 'Tendenza', a movement in contemporary Italian architecture, pursued architecture as a "cognitive process in and of itself, in the acknowledgement of its own autonomy [...]." Apart from *autonomy*, a theory of *typology* was developed, which allowed an architectural representation of the city.

²⁸ Kees Doevendans, "Sustainable Urban Development and the Fourth Typology" in *Ecopolis: Sustainable Planning and Design Principles*, ed. Dimitra Babalis (Firenze: Alinea Editrice, 2006), pp. 31-38.

²⁹ See: Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Cambridge, MA: MIT Press, 1970).

either curved or squared. And, of course, as soon as it comes to actually making a geometrical figure out of a topological structure, we enter into Euclidean geometry; that is, the design of complex curvature is essentially Euclidean. One should not think of Euclidean geometry as cubes opposed to the free interlacing of topology.³⁰ [emphasis added]

Despite a number of references to Deleuze, Doevendans fails to recognise that it is precisely topology (manifold) that helps Deleuze dispense with typologies (essentialism) once and for all. We have to avoid the 'fallacy of tracing' or conflating the product with the process.³¹ There is no common measure between topological content and typological form. This is to recognise the asymmetry between the two odd unequal irreducible halves of the virtual and actual as beautifully illustrated by Bergson's Cone, in contrast to phenomenology which maintains the isomorphic symmetry between the two prongs of the empirico-transcendental double.³² This is a clue to the radical nature of Deleuze's philosophy, as Williams argues: "it is inherently anti-conservative and anti-reactionary due to its inbuilt and unavoidable asymmetries of time. There is no represented and original past to go to. [Laugier/Nature] There is no eternal realm to escape to in the future [either], where time stands still [Rossi/Type]."³³ *The Three Typologies* all operate under the auspices of representation through

³⁰ Bernard Cache, "Plea for Euclid," in *Arch'it, rivista digitale di architettura* (1998), http://architettura.supereva.com/extended/19990501/index_en.htm (accessed May 25, 2011).

³¹ In the recent past there have been numerous pleas to 'typify topology'. See: Stan Allen, "From Object to Field" in *AD* (Vol. 67, May-June 1997). "[W]e might suggest that a field condition would be any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bounded aggregates characterised by porosity and local interconnectivity. The internal regulations of the parts are decisive; *overall shape and extent are highly fluid*. [sic] Field conditions are bottom-up phenomena: defined not by overarching geometrical schemas but by intricate local connections. Form matters, but not so much the forms of things as the forms between things." [emphasis added] In more general terms, the field approach collapses the figure/ground distinction.

³² Bergson's 'pure memory' (rhythms and frequencies of duration) is opposed to the most relaxed level of duration, that is, space or matter in the most condensed contraction of the whole (of time) into the present of understanding. 'Memories' that are most removed from the present point of action preserve their singularity and distinctiveness, whereas those closer to the active present are general or general enough to be of immediate use for most purposes. We do not dispense with the totality but with the total actuality of teleological reflective judgement. We leap into a virtual or pure, not a chronological or psychological, past. This is an ontological and not a chronological move. See Henri Bergson, *Matter and Memory* (New York: Dover Publications, [1896] 2004), p. 197.

³³ James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), p. 4.

analogies with nature, industry or historical type. In stark opposition, there is no re-presentation or any resemblance (analogy) in topological thinking. There is no homology between the engendered (type) and the engendering topology. Topologically, a thing can no longer be considered as one, a unity, but as a multiplicity, always increasing its lines of connection with other things. In his recent interview, the principle of NOX Lars Spuybroek states that architects have difficulties understanding order and contingency in an ontological relationship, as one producing the other. Rather, they see them both as structures. It should not come as a surprise that Gibson, the founder of the Ecological School of Perception, also finds the notion of structure problematic. The better part of our technological and aesthetic tradition has been oriented towards structure as stable and homeostatic. But the system is more accurately defined by the events as incorporeal effects than by a mere description of the 'physical substrate' in which these events act as quasi-causes. From the Gibsonian point of view, what is required is a concept of structure that is not detached from what it structures.³⁴ It has to be neither *a priori*, nor *a posteriori*.³⁵ Do not divide the deed from the doer seems to be the rule of thumb. In other words, rather than asking to typologise topology in the vein of Doevendans, it will always be necessary to topologise type.³⁶

For Deleuze all individuation is based upon movement and rest.³⁷ The distinction between the seemingly opposed strata on the one hand and the fluid plane of nature, or Body without Organs, on the other is simply a question of varying speeds and slownesses within a *single* system. We have yet to distinguish

³⁴ 'Structure' can entail many things and is thus difficult to define. Structure is often comprised of components which in turn have their own structure. So, in terms of an ordered composition or articulation, structure applies both to the whole and to its constituent parts. Each part may have a recognisable identity and together the parts form a whole, a unity, with a molar identity. A building's structure is the totality of form, measure, scale, function, space and materials - the totality that makes a particular and specific building. Perhaps the key aspect of structure is relationship: the relationship between the parts and relationship of the parts to the whole. *Ipsa facto*, the key aspect of structure is 'structuration'.

³⁵ Michael J. Braund, *From Inference to Affordance: the Problem of Visual Depth-perception in the Optical Writings of Descartes, Berkeley and Gibson* (Ottawa: Library and Archives Canada, 2009), p. 67.

³⁶ Lars Spuybroek, "Machining Architecture" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p. 9.

³⁷ See: Manuel DeLanda, "Nonorganic Life" in *Incorporations: Zone 6*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone, 1992), pp. 129-167. Deleuze takes the distinction between speeds and slownesses from Spinoza. See also: Gilles Deleuze, *Spinoza, Practical Philosophy* (San Francisco: City Lights Books, [1970] 1988), p. 123 and Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 254, 261.

between the three T-s: essentialist Typology, extensive Topography and intensive Topology.³⁸ Hence Spuybroek:

Let's put all the forms between solid and liquid on a line. *Solid* is on one side. That's how architects generally understand form: idealised, crystallised, a priori, archetypal. No dynamics, no contingency, only memory. [T]he first one after solid form going in the direction of liquid is *structure*: it's more open, not necessarily Platonic. It's not the dead clay of Platonism; there are forces, points and lines involved, but it is as static. Then we have *configuration*; it's the word some of the Gestaltists used for form. There is a going back and forth between actual perceptions and virtual memories; it's much more dynamic than structure. Next to configuration, we have the modern notion of *pattern*, which is sort of between information and form; it is generally considered as fully emergent. [...] Then, I guess, closest to completely liquid, we have Deleuze's *rhythm*, his continuous variation and modulation. Waves, turbulences, swerves.

Spuybroek continues by demonstrating the effectiveness of topological thinking, in contrast to Kant's schematism, to conclude that every theory of perception is inherently a theory of aesthetics:

With Kant, all the particulars you see – for example, a dog on a warm Sunday morning – contribute through synthesis to a generalised scheme of dogness, a memory structure that you obviously need to recognise a dog in a new encounter as a dog and not a tree or a cat. But the moment dogs add up to dogness, it freezes into a transcendental category that makes all dogs old dogs, which Deleuze happily saves us from – visuals with him stay active, operational. Perception and action form clustered entities – rhythms, he often calls them, or percepts, which are not perceptions. So they are memorised, but plastically, which fits in much better with modern neurology than Kant's ideas do. Images are active images [Movement-Images], not just things you see.³⁹

Process philosophy, or ontology of becoming, identifies metaphysical reality with change and dynamism. Ever since the times of Plato and Aristotle, processes

³⁸ Celia Lury, "Topology for Culture: Metaphors and Tools" at *Colloquium 1: Thinking topologically? A Topological Approach to Cultural Dynamics* (2007), http://www.atacd.net/index.php%3Foption=com_content&task=view&id=107&Itemid=88.html (accessed May 25, 2011).

³⁹ See: Lars Spuybroek in an interview by Arjen Mulder "The Aesthetics of Variation" in *Interact or Die*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Pub./NAi, 2007), pp. 141-142. See also: Gilles Deleuze, "Letter to Uno on Language" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 201. "[L]anguage has no significance of its own. It is composted of signs, but signs are inseparable from a whole other element, a non-linguistic element, which could be called 'the state of things' or, better yet, 'images'."

have either been denied or subordinated to timeless substances. Change is seen as merely accidental, whereas the substance is essential. Consequently, classic ontology denies any full reality to change as such. This classical ontology has influenced our present epistemology. By contrast, process philosophy grants full reality to becoming. The formal origin of this theory is often associated with Heraclitus' maxim 'everything flows' [*Panta Rhei*]. No man ever steps in the same river twice because it is neither the same river *nor* the same man. Things pass, yet - as we shall see - they do not pass into nothingness. The new conceptual tools adapted to the continuum are the legacies of esteemed 'rheologists' Gottfried Leibniz (1646-1716), Carl Friedrich Gauss (1777-1855), his disciple Bernhard Riemann (1826-1866), Leonhard Euler (1707-1783), Henri Poincaré (1854-1912) and Felix Klein (1849-1925), to name but a few.⁴⁰

3.1.2 Relations Independent of Their Terms

051 **dy/dx: Differential Calculus** Every in-dividual is composed of an infinity of parts. But when you analyse something, as Deleuze says, there will always be a moment where it will be necessary to stop. This marks a struggle at two fronts: between the *finite* actual and the *infinite* virtual, that is between the striated and the smooth. That neither the infinite set nor the finite individuality can be the point of departure of a logic of relations is obvious. This begs the following question: In what sense is there a consistency of the relation independent of its terms so that the relation subsists when the terms vanish? The terms between which the relation is established are neither determined nor determinable. Only the relation is determined. It is here that logic is going to make a fundamental leap. Under the form of the differential calculus Deleuze discovered a domain where the relations no longer depended on their terms. In other words, if relations between the changes of two or more quantities can be expressed as a rate of change, then the calculus allows us to find the value for that very rate. The comparison with the factorial and algebraic relation is helpful. [Table xx] As opposed to either of them, the infinitesimal dx has no sense in relation to x , the same way that dy has no sense in relation to y . Only the *relation* of one infinitesimal - itself a relation - with another (dx/dy) makes sense. What ultimately distinguishes one infinite set from another, according to Deleuze, is that they have different powers. It is here that we begin to see the basic ingredients of his differential ontology, 'the trinity': a finite always consists of an infinity under a certain relation:

⁴⁰ Rheology is the study of deformation and flow of matter. The term - inspired by Heraclitus' famous expression *panta rei*, 'everything flows' - was coined in 1920 by Eugene Bingham, a professor at Lehigh University.

(1) I am composed of an infinity of vanishing and small parts (plane of immanence)

(2) Differential relation (BwO)

(3) Essence (larval-subject).⁴¹

FACTORIAL relation	ALGEBRAIC relation	DIFFERENTIAL relation
2/3	$ax+bx=$ $x/y=$	$dy/dx=0/0 \neq 0$
'good'	'better'	'best'

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Difference That Makes a Difference: *Differential relations subsist while the terms vanish. Something finite consists of an infinity under a certain relation. Trinity: the infinite (of parts), (differential) relation and the limit (essence). The individual is not form, rather it is power.*⁴² (G. Deleuze, 1981)

Not only is Deleuze interested in the difference in kind between the primitive function and the differential but also in the fact that, by integration, the primitive function can be generated from the differential. In recognising the difference between differentiation and integration, according to Somers-Hall, "Deleuzian ontology returns to the Bergsonian idea that the [apparent] absence of order is in fact the presence of a different kind of order, [...] a distinction which is played out between sedentary (representational) distributions and nomadic (differential) distributions."⁴³ The differential thus provides the tools for a transcendental (not transcendent) logic capable of giving an account of actualisation of the non-

⁴¹ Gilles Deleuze, *Cours Vincennes*: "the actual infinite-eternal, the logic of relations" (March 10, 1981), <http://www.webdeleuze.com/php/texte.php?cle=42&groupe=Spinoza&langue=2> (accessed May 25, 2011). It must be noted that Deleuze radically reformulates the problem of essences by tying them to events. His 'essentialism' avoids the fallacy of tracing the transcendental from the empirical and escapes the problems of necessity.

⁴² See: Gilles Deleuze, *Cours Vincennes*: "Deleuze/Spinoza" (February 17, 1981), <http://www.webdeleuze.com/php/texte.php?cle=38&groupe=Spinoza&langue=2> (accessed May 25, 2011).

⁴³ See: Henry Somers-Hall, "Hegel and Deleuze on the metaphysical interpretation of the calculus" in *Cont Philos Rev* (No. 42, 2010), p. 571.

actual, that is, the virtual.⁴⁴ This is pertinent insofar as our 'borrowing' from the past seems to have run its course. Any truly emancipatory politics, according to Braidotti, needs to "borrow concepts from the future, instead".⁴⁵

052 **2D: Surface as Space** The *Theorema Egregium* (Remarkable Theorem), is an important contribution to differential geometry concerning the curvature of surfaces. In 1928 the mathematician Carl Friedrich Gauss discovered that the curvature of a surface can be determined entirely by measuring angles and distances on the surface. By dealing with the surface through its own local properties, Gauss advanced a totally new concept that "*a surface is a space in itself*."⁴⁶ The discovery was so counter-intuitive that Gauss kept it a secret for twenty years. By operating entirely with local information, he realised that the calculus allowed the study of the surface without any reference to the global embedding space (N+1). The most common global space fixed by the three Cartesian axes is well known to anyone using computer-aided design software (CAD). This marked a quintessential N-1 move; analogous to what the humanities would refer to as 'getting rid of the master signifier'. Here is a graphic analogy *qua de* Kerckhove's *The Skin of Our Culture*:

'Damn, we're lost!', Michael said to his Indian guide. The guide looked at him devastated and said: 'We're not lost, the camp is gone!' Suddenly Michael realised that this was one of the most important differences between his own view of the world and that of his guide: he saw space as a fixed given, as something incredibly vast in which Man can move freely (but also can get lost), his guide saw that space as something enclosed in Man, as a medium continuously in flux where you by definition cannot get lost because you yourself are the only fixed point. You'll always be on the same spot. In some cultures walking is not the traversing of space, but the pushing away of the space beneath your feet.⁴⁷

Gauss proved that one does not need an extra dimension (3D) in order to study a (2D) surface. Instead of accounting for fixed coordinates (x,y,z) at each instance of the surface in relation to the origin of the three axes (0,0,0), what counts is the local curvature determining the rate of change, be it slowing down (\),

⁴⁴ Or as Guattari put it, "The machine, every species of machine, is always at the junction of the finite and infinite, at this point of negotiation between complexity and chaos." See: Félix Guattari, "New Aesthetic Paradigm" in *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p. 111.

⁴⁵ Rosi Braidotti's formulation of the problem of futurity. [Personal correspondence]

⁴⁶ Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), pp. 11-12.

⁴⁷ See: Lars Spuybroek, "Motor Geometry" in *Arch+* (No. 138, October 1997).

accelerating (/) or stagnating (-). By turning the surface into a 'field of rapidities and slownesses', Gauss effectively rendered palpable the process of becoming.⁴⁸ Consider the wider implications. Heidegger argued that in order to understand the being of *Dasein* we must understand the manner in which it is a being-in-the-world.⁴⁹ By contrast, Deleuze's new local ontology allows us to understand the immanent organization of a world without reference to an embedding global space.⁵⁰ DeLanda spells out two crucial lessons for Deleuzian metaphysics: "The first lesson is that [...] intensive properties are not so much indivisible, as *that which cannot be divided without changing nature*. The thresholds do segment an intensive map but each subdivision corresponds to a different variant phase or regime." The second lesson is that critical thresholds are always one dimension lower than the map itself:

If, like mathematicians, we use the variable 'N' to indicate the number of dimensions, we can say that *intensive thresholds always have N-1 dimensions*: points in a line, lines in a surface, surfaces in a volume. The reason why this is significant is that in a materialist metaphysics the structure of possibility spaces must always be immanent not transcendent, and as Deleuze argues, transcendent forms of determination always exist on a higher dimension than the space in which a material process unfolds. That is, transcendent determination is always N+1. Aristotelian essences, for example, exist on a higher ontological plane than that of the individual entities they formally determine, the level of species or genus, endowing these individuals with homogeneity and unity from above. The immanent structure of possibility spaces, on the other hand, 'however many dimensions it may have, [...] never has a supplementary dimension to that which

⁴⁸ According to DeLanda, in differential geometry one takes advantage of the fact that the calculus operates on equations expressing rates of change. Differentiation gives as its output an instantaneous value for that rate of change. The points that form space can then be defined by an instantaneous rate at which *curvature* changes at that point. While some parts of space will not be changing at all, other parts may be changing slowly, others still may be changing very fast. A differential space (manifold), in effect, becomes a *field of rapidities and slownesses* and via these infinitesimal relations one can specify neighbourhoods without having to use rigid lengths. See: Manuel DeLanda, "Materiality: Anexact and Intense" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), pp. 370-377.

⁴⁹ *Dasein* is a colloquial German word meaning 'being there' or a human's sense of existence. The issue of being is important for Heidegger's thesis. See: Martin Heidegger, *Being and Time* (New York: Harper, [1926] 1962).

⁵⁰ Levi Bryant, "A Note on Gaussian Spaces and Multiplicities" (2006), <http://larval-subjects.blogspot.com/2006/06/note-on-gaussian-spaces-and.html> (accessed May 25, 2011).

transpires upon it. This alone makes it natural and immanent'.⁵¹ [emphases in the original]

The two lessons add up to the metaphysics of immanent variation that replaces the metaphysics based on transcendent unity, or the metaphysics in which the (One-All) Multiple replaces the One.

053 **ND: Manifold/Multiplicity** The mathematical concept of differential space as *manifold* brings together geometry and topology and is crucial to Deleuze's entire philosophy. It is arguably the primary quasi-mathematical model for it.⁵² The credit for the concept goes to Gauss' disciple Bernhard Riemann who extended his master's 2D concept to ND (any number of dimensions). According to Deleuze and Guattari, "It was a decisive event when the mathematician Riemann uprooted the multiple from its predicate state and made it a noun, 'multiplicity'. It marked the end of dialectics [...]"⁵³. In this way the classical One-Multiple dichotomy - where dialectics subordinates the becoming of forces to their *telos* - is superseded in favour of an immanent organisation without reference to an extrinsic ordering, beyond the false dichotomy of order and disorder.⁵⁴ "Multiplicity, which replaces the one no less than the multiple, is the true substantive, substance itself."⁵⁵ This substance, however, is as an effect of difference. As such it dispensed with the old substance that endured beneath accidental changes. In opposition to dialectics where difference is strictly oppositional (negation / negation of negation), and where intelligence indeed comes before, the differential precedes its terms. This is a pure difference and not a "difference between..." Already in *Difference and Repetition* (1968) Deleuze indicates when and under what conditions we should speak of a multiplicity. He lists three conditions which together allow us to define the moment when an Idea emerges:

⁵¹ Manuel DeLanda, "Intensive and Extensive Cartography" in *Deleuze: History and Science*, ed. Wolfgang Schirmacher (New York and Dresden: Atropos Press, 2010), p. 123.

⁵² The mathematical influence on Deleuze's ontology is often downplayed by humanities scholars.

⁵³ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 482-483.

⁵⁴ Nietzsche on dialectics: "It misinterprets *sense* because it does not know the nature of forces which concretely appropriate phenomena; it misinterprets *essence* because it does not know the real element from which forces, their qualities and their relations derive (will to power); it misinterprets *change and transformation* because it is content to work with permutations of abstract and unreal terms." See: Gilles Deleuze, *Nietzsche and Philosophy* (New York: Columbia University Press, [1962] 2006), p. 158.

⁵⁵ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 182.

- (1) The elements of the multiplicity must have neither sensible form nor conceptual signification, nor, therefore any assignable function. They are not even actually existent, but inseparable from a potential or a virtuality. [...]
- (2) These elements must in effect be determined, but reciprocally, by reciprocal relations that allow no independence whatsoever to subsist. [...] In all cases the multiplicity is intrinsically defined, without external reference or recourse to a uniform space in which it would be submerged. [...]
- (3) A multiple ideal connection, a differential relation, must be actualized in diverse spatiotemporal relationships, at the same time that its elements are actually incarnated in a variety of terms and forms. The Idea is thus defined as a structure.⁵⁶

The manifold as a multidimensional (ND) version of Gauss' two-dimensional space was immediately employed for difficult (nonlinear) problems. According to Plotinsky: "One of Riemann's many great inventions, prepared by Gauss' work, was the concept of measurement in curved spaces (of dimensions three and above), which Einstein used so brilliantly in general relativity, his non-Newtonian theory of gravity. Crucially, it is not a matter of curves in a flat space but of the curvature of the space itself."⁵⁷ Riemann not only anticipated the central concept by more than sixty years and laid out the mathematical foundation of Einstein's general relativity theory, but he also suggested that space could be measured by its physical mass. The most fundamental consequence of the breakthrough was to determine that bodies are not simply occupants of space but participants that, by their very presence, bend the space itself. Bertrand Russell gives a lovely analogy as an attempt to visualise this immanent organisation of a multiplicity without reference to an embedding global space. We quote it fully for its outstanding heuristic value:

Suppose that on a dark night a number of people with lanterns were walking in various directions across a huge plain, and suppose that in one part of the plain there was a hill with a flaring beacon on the top. Our hill is to be such as we have described, growing steeper as it goes up, ending in a precipice. I shall suppose that there are villages dotted about the plain, and the people with

⁵⁶ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 183. See also: Gilles Deleuze, "Difference and Repetition" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), pp. 300-303. "Everything I have done since then seems an extension of this book [...]."

⁵⁷ Arkady Plotinsky, "Algebras, Geometries and Topologies of the Fold: Deleuze, Derrida and Quasi-Mathematical Thinking (with Leibniz and Mallarmé)" in *Between Deleuze and Derrida*, ed. Paul Patton and John Protevi (London and New York: Continuum, 2003) p. 101. Plotinsky is opposed to the conflation of the two terms Multiplicity/Manifold but the distinction is irrelevant for our purposes.

lanterns are walking to and from these various villages. Paths have been made showing the easiest way from any one village to any other. These paths will all be more or less curved, to avoid too far up the hill; they will be more sharply curved when they pass near the top of the hill than when they keep some way off from it. Now suppose that you are observing all this, as best as you can, from a place high up in a balloon, so that you cannot see the ground, but only the lanterns and the beacon. You will not know that there is a hill, or that the beacon is at the top of it. You will see that the lanterns turn out of straight course when they approach the beacon, and that the nearer they come the more they turn aside. You will naturally attribute this to an effect of beacon; you may think that it is exerting some force on the lanterns. But if you wait for daylight you will see the hill, and you will find that the beacon merely marks the top of the hill and does not influence the people with lanterns in any way.

Now in this analogy the beacon corresponds to the sun, the people with lanterns correspond to the planets and comets, the paths correspond to their orbits, and the coming of day corresponds to the coming of Einstein. Einstein says that the sun is at the top of a hill, only the hill is in space-time, not in space. (I advise the reader not to try to picture this, because it is impossible). Each body, at each moment, adopts the easiest course open to it, but owing to the hill the easiest course is not a straight line.⁵⁸

054 **N-1: Phase Space/Phase Portrait** It was up to the co-inventor of *Theory of Relativity* Henri Poincaré to finally marry mathematics and existence or to put topology to (practical) use. Poincaré found the way to describe the long-term behaviour of a system which would circumvent particularities. The 'phase space', as it came to be known, is key to understanding Deleuze and Guattari's transcendental empiricism notwithstanding their qualification that "every concept has a phase space, although not in the same way as science."⁵⁹

The instantaneous states of a physical system *qua* physical are, when taken individually, transient. They are not only too fleeting to be observable but also trivial. However, there are circumstances which give rise to observable states of a system. For example, where trajectories - consisting of the 'histories' of unfolding states - manifest asymptotic behaviour or where there is sufficiently rapid oscillation between one stable endpoint and another. Such states, which the system repeatedly falls or tends to fall into, are for obvious reasons called attractors.⁶⁰ [Table xxi] Simply put, these fitness landscapes reveal long-term tendencies of a system beyond mere instances or snap-shots. According to

⁵⁸ Bertrand Russell, *ABC of Relativity* (London: Routledge, [1958] 2009), pp. 87-88.

⁵⁹ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 25.

⁶⁰ Barry Smith, "The Structures of the Common-Sense World" in *Acta Philosophica Fennica* (Vol. 58, 1995), pp. 290-317.

DeLanda, a way of approaching the ontological status of attractors would be to consider them not as possibilities themselves but as the structure of a space of possibility.⁶¹ These smooth spaces are populated by *singularities* in opposition to ordinary and not plural points.

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- a) The ball on top of the hill has a lot of potential energy, and even a very small push will dislodge it; it is a repeller.

 - b) The ball at the bottom of the steep hill requires a large energy boost to send it over the top. If perturbed, it will quickly return to the bottom. It is a stable attractor.

 - c) The ball in the shallow well is in a less stable situation. Relatively small perturbations will push the ball around, although, given enough time, it will probably end up in the deeper well because of its own stochastic noise.

 - d) A behavioural system may have multi-stability (multiple interconnected wells). E.g. unstable weather vs. meta-stable climate.

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Fitness Landscape: *The stability of the attractor illustrated as potential wells (basins) by way of analogy with gravity: while it takes a lot of energy to climb to the top of the peak it is easy to descend to the valley.*⁶² (E. Thelen and L. Smith, 2006)

In the example of the ideal event of water boiling, 100°C is remarkable (singular), while 97, 98, and 99°C are ordinary. To extract a consistent event from a state of affairs is to advance in the opposite direction from striation. Deleuze and Guattari compare such an extraction with Lewis Carroll's 'smile without a cat'. According to them, it was the Stoics who "carried to its highest point the fundamental distinction between, on the one hand, states of affairs or mixtures of bodies in which the event is actualised and, on the other, incorporeal events that rise like a vapor from states of affairs themselves."⁶³ The 'time' of this incorporeal realm of becomings is an achronological time of Aion where everything has already happened and is yet to occur. Let us, with the help of John Protevi, go through the five steps in constructing a phase space or phase portrait:

⁶¹ Manuel DeLanda, "Space: Extensive and Intensive, Actual and Virtual" in *Deleuze and Space*, ed. Ian Buchanan and Gregg Lambert (Edinburgh: Edinburgh Press, 2005), p. 83.

⁶² Esther Thelen and Linda B. Smith: "Dynamic Systems Theories" in *Handbook of Child Psychology*, ed. Richard M. Lerner (New Jersey: John Wiley & Sons, 2006), p. 273.

⁶³ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 127.

- (1) Identify important aspects of a system's behaviour, that is, its 'degrees of freedom'.
- (2) Imagine or model a space with as many dimensions as the degrees of freedom of the system to be studied.
- (3) Represent each state of the system by a single point, with as many values as there are dimensions.
- (4) Follow the movement of the point, which represents the changing states of the system as it produces a line, a trajectory, through phase space.
- (5) Attempt to solve the equations governing the line and thereby predict the system's [long term] behaviour.⁶⁴

However, our approach does not advocate a strictly computational model. As it will become apparent, we propose to approach the phase space construction as a 'minor' heuristic practice which will allow to follow potentials by attending to the implicit forms of matter and developing operations that bring forth those potentials. In any event, some examples are in order. A simple pendulum, as a dynamic system, has two degrees of freedom, that is, it allows for a change of velocity and change of position.⁶⁵ It can thus be represented as a two-dimensional phase space where each instantaneous state is represented by a single point. As *all* the trajectories are plotted on the surface a pattern emerges, in other words, certain 'histories' become more likely than others. In the case of the pendulum, it will eventually settle into a *single point* attractor (due to friction).⁶⁶ This is a rather complicated way of arriving at a simple conclusion that the pendulum as a dynamic system will eventually come to a halt. However, with more complex systems the outcome is not as intuitive. [Table xxii] Consider, for example, two completely different striations - those of the salt crystal and the soap bubble - which nevertheless stem from the single attractor smooth space. This underscores

⁶⁴ Mark Bonta and John Protevi, *Deleuze and Geophilosophy: A Guide and Glossary* (Edinburgh: Edinburgh University Press, 2004), p. 17.

⁶⁵ In modelling the behaviour of a pendulum only its velocity and position are important and consequently it has two degrees of freedom. By contrast, the oven has only one degree of freedom, its change in temperature. A bicycle, on the other hand - taking into account the coordinated motion of its different parts (handlebars, front and back wheels, right and left pedals) - is a system with approximately ten degrees of freedom. See: Manuel DeLanda, "Nonorganic Life" in *Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone 6, 1992), p. 136.

⁶⁶ Friction is presupposed. Without friction, however, the pendulum will exhibit a limit cycle attractor.

the 'inclusive disjunction' principle whereby a single topological attractor quasi-causes multiple and divergent geometrical actualisations: the cube and sphere. The former is a result of (auto-poetic) minimising of bonding energy, and the latter of (auto-poetic) minimising of surface tension, according to the Swiss mathematician Leonhard Euler.

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	SINGLE	MULTIPLE	OSCILLATING	STRANGE
	Salt Crystal - minimising bond energy	Horse - walk - trot - gallop	Periodic states <i>limit-cycle</i> <i>attractors</i>	Chaotic states <i>far from</i> <i>equilibrium</i>
	Soap Bubble - minimizing surface tension	Water - ice - liquid - vapour	- heart beat - radio	
	<i>single</i> <i>equilibrium</i>			

xxii

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Classification of Attractors: *[W]ith multiple equilibria history cannot be ignored, since what local optima are available to a system and where a system can go from a local optimum are now a function of what happens to a system on its way there. Philosophically this change makes all the difference in the world. With single equilibria one can still think of the found form as perfect or optimal in some transcendent way. [...] An intense and anexact materiality is one that does not need a creator with a plan to generate form, it is capable of generating it (or finding it) itself. [...] Our form-finding machines should reflect this anti-theology (and anti-teleology) and re-enchantment of the material world that follows from it.*⁶⁷ (M. DeLanda, 2004)

There are also systems with *multiple* attractors. We have already considered the phase space of water with two such bifurcations where a qualitative phase change occurs: boiling and freezing as ideal events that determine the consistency of the assemblage (solid, liquid and gaseous). Similar multiple attractors govern the change in the pattern of the locomotion of horses, for example. The phase

⁶⁷ Manuel DeLanda, "Materiality: Anexact and Intense" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p.377. "Indeed, the original discoverers of these simple singularities (Euler, Maupertius) thought they had found proof of the existence of a rational God: if every phenomenon of spontaneous morphogenesis can be thought as optimizing, and if there is only one way of doing this, does this not show the existence of a divine plan? Unfortunately, postulating an optimizing God defeats the very philosophical advantage of the discovery of topological invariants acting as attractors."

transition between walking and trotting, and trotting and galloping, occurs when a particular threshold is crossed and the animal utilises its physiology in a different way.⁶⁸ There have also been attempts to consider long-term geological, biological and linguistic developments in terms of phase transitions.⁶⁹ At the cosmological level, one can identify three singularities triggering the emergence of matter, life and thought.

In addition to multiple attractors, there is yet another family of the so-called *oscillating* attractors. In contrast to the systems of equilibrium - those that acquire steady states which correspond to fixed point attractors - they are periodic states that are determined by limit-cycle attractors. Take, for example, an oscillating electric circuit. Whatever its initial state, the system will eventually reach a stable oscillatory state. The same applies to the heartbeat, sleep-wakefulness cycle, menstrual cycle, seasons and so on.

Finally, there are chaotic states that correspond to *strange* attractors.⁷⁰ They are far-from-equilibrium systems and have no single optimum. The 'reluctance of the system to settle down' could be considered the best evidence of the neg-entropic tendency of (nonorganic) life. Each one of these phase spaces is a Body without Organs (BwO), a *spatium* that comes before space. All of them seamed together - like the harlequin's cloak - form *the* BwO or the Virtual (non-t/h/el/eological God?). In Deleuze's words, "The multiple is in the one which complicates it, just as the one is in the multiple which explicates it."⁷¹ Pure difference, and by extension the entire virtual continuum, constitutes an attempt to think through the non-conceptual real difference that underlies our conceptual understanding of the world. Although the realm of virtual intensity which Deluzian philosophy tries to conceptualise is transcendental in the sense that it is not directly accessible to experience, it is by no means transcendent. Drawing on

⁶⁸ The same can be shown even in the example of a cockroach. At a low rate of movement the gait of this insect involves all six limbs moving in an alternating tripod manner. As the rate of movement increases the cockroach moves into a quadrupedal phase. At sufficiently high speeds it moves into a bipedal locomotory phase. See: R. J. Full and M. S. Tu, "Mechanics of a rapid running insect: Two-, four-, and six-legged locomotion" in *Journal of Experimental Biology* (No. 156, 1991), pp. 215-231. The main 'ingredients' for the phenomenon of phase transition were worked out by the 1910 Nobel laureate Van der Waal.

⁶⁹ See: Manuel DeLanda, *A Thousand Years of Non-Linear History* (New York: Zone Books, 1997).

⁷⁰ Edward Lorenz discovered the three-dimensional strange attractor in 1963 (often described as looking like a butterfly) while exploring simplified equations for convection rolls in the atmosphere. The Lorenz attractor is deterministic yet unpredictable, and thus referred to as chaotic. It led René Thom to develop 'the theory of catastrophes' in his *Structural Stability and Morphogenesis* in 1972.

⁷¹ See: Gilles Deleuze, "Zones of Immanence" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 261.

Deleuze's *mathēsis universalis* of differential calculus - *giving rise to discontinuity on the basis of continuity* - all actualisations are 'integrations' or *solutions* of a differential field. The field itself is defined in terms of its ingredients (whatever they might be at different 'levels') and singular points (basins of attraction) that emerge when these elements are brought together. In other words, smoothing the striation and striating the smooth are mutually dependent because the world of actuality consists of solutions to problems posed when these various series are brought together. A multiplicity defines the problematic field through which these integrations or solutions occur and are thus real (and not merely possible) conditions for the phenomena of the world. Deleuze provides a poetic illustration:

What we call wheat is a contraction of the earth and humidity, and this contraction is both a contemplation and the auto-satisfaction of that contemplation. By its existence along, the lily of the field sings the glory of the heavens, the goddesses and god- in other words, the elements that it contemplates in contracting. What organism is not made of elements and cases of repetition, of contemplated and contracted water, nitrogen, carbon, chlorides and sulphates, thereby intertwining all the habits of which it is composed.⁷²

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CIRCLE	DODECAGON	OCTAGON	SQUARE
(∞ sides)	(12 sides)	(8 sides)	(4 sides)
any	0°, 30°, 60°, 90°, 180°, 210°, 240°, 270°, 300°, 330°	0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°	0°, 90°, 180°, 270°
< MORE SYMMETRY		LESS SYMMETRY >	
<i>less detail (bland)</i>		<i>more detail</i>	
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xxiii

Symmetry-Breaking Transition: *Invariance under Group of rotation.*

But how does one 'classify' geometrical objects without falling back on their extensive properties. The answer is by their 'degrees of symmetry'.⁷³ Again, the

⁷² See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP,[1968] 1994), p. 75.

⁷³ The two concepts, namely, transformations and invariants, were 'destined' to play an increasingly important role in science, eventually becoming an integral part of twentieth-century physics. See: Manuel DeLanda, *Intensive Science and Virtual Topology* (London

emphasis shifts to the Spinozian affect as the capacity to be affected, or put differently, what remains the same in the face of change. For example, while in the conventional approach we look for a set of properties common to all cubes and spheres respectively, the affective approach allows dynamic relations to enter into the classification. [Table xxiii] If a cube and a sphere undergo a transformation consisting of a 45 degree rotation it will affect them differently. While a cube would remain invariant when rotated by 90 degrees (a set of 0, 90, 180, 270 degrees), it would not be the case under the set of transformations containing rotations by 45 degrees. In contrast, a sphere remains invariant under rotations by any number of degrees. Hence, the larger the group of transformations leaving an object unchanged the more symmetry the object is said to possess. To put it simply, the more 'general' or less-detailed the object the more symmetry it has. The sphere has more symmetry than the cube. This affective approach arguably holds an answer to the Molyneux problem (that we considered in the previous chapter) if we conceive it in terms of machinism of perception: What we call an object (sphere, cube) is but the shorthand for an event (a *field of rapidities and slownesses*). Let us turn our attention to the very process which underpins the transitions. In the words of DeLanda:

If we imagine an event that would change a sphere into a cube, it would illustrate a *symmetry-breaking event*, since the original group of transformations would be made smaller. In other words, the event would cause the object to lose symmetry or to become less bland [less 'general', more specific]. A sequence of events in which this blandness is progressively lost (a symmetry-breaking cascade) would represent, in turn, a process of *progressive differentiation*, a process in which an originally undifferentiated object progressively acquires more and more detail.⁷⁴

In a physical process, transformations through broken symmetry may occur in the form of phase transitions. As opposed to the mapping of actual borders of entities possessing a spatial organisation (topography), we turn the attention to the thresholds of intensity causing spontaneous transformations in the spatial organisation of these bodies. Recall the phase transitions quasi-caused by the freezing and boiling points of water (Chapter Two). The change of state from solid via liquid to gaseous is but a sequence of symmetry breaking or rather symmetry gaining in this particular sequence. Please note that the *bifurcations* are 'ideal events' that - unlike the real events - are completely reversible and as

and New York: Continuum, 2002), p. 18. See also: Manuel DeLanda, "Deleuze in Phase Space" in *Virtual Mathematics*, ed. Simon Duffy. (Manchester: Clinamen Press, 2006).
⁷⁴ See: Manuel DeLanda, "Materiality: Anexact and Intense" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p. 372.

such belong to the virtual realm. There is no homology between the condition (extra-propositional and sub-representative problem) and the conditioned (solution).

055 **Erlangen Programme** We can now define the whole of geometry as the study of invariants of a particular transformation group, courtesy of Felix Klein.⁷⁵ As we have seen, an invariant is exactly what it sounds like: a magnitude that does not change under the action of the transformation group, or a set that gets mapped onto itself by the same group.⁷⁶ Klein went on to classify all geometries known to him and realised that they formed a 'hierarchy' in which, as we progress from Euclidean geometry, fewer and fewer properties remain invariant (and groups include more and more transformations), and vice versa: as we regress, the geometric spaces become increasingly less bland or more detailed. [Table xxiv]

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	TRANSFORMATION GROUP	INVARIANCE	
	TOPOLOGICAL	SEQUENCE	<i>smooth</i>
	PROJECTIVE	STRAIGHT LINE	
	AFFINE	PARALLELITY	
	EUCLIDIAN	ANGLE	
	EUCLIDIAN	SIZE	<i>striated</i>
		<i>(translation, reflection, rotation)</i>	
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xxiv

Klein's Erlangen Programme: *Different geometries as subgroups, classified by invariants under transformations, with topological geometry included (e.g. square).*

The Erlangen Programme, named after the homonymous city in Germany, allowed us to see that all geometry could be treated in the same way and that geometries which at first glance looked disparate (cube and sphere) were in fact expressions of the same underlying principles. As such, it fits the Deluzian One=All formula of *multiplicities* without succumbing to either unities or totalities. The nesting of geometries is quintessential for the project of transcendental empiricism as a process ontology which is at cross purposes both with the naïve empiricism (positivism) and transcendental idealism. "The essential thing, from the point of view of empiricism, is the noun *multiplicity*, which designates a set of lines or dimensions which are irreducible to one

⁷⁵ Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), pp. 31-36.

⁷⁶ For some concrete examples of invariants, we can list the structural ones such as gravity and horizon; or transformational invariants such as seasons, diurnal cycle, etc.

another", as Deleuze explains, "Every 'thing' is made up in this way."⁷⁷ DeLanda offers the following genealogy of the (most) important Deluzian concept:

Although the creators of these classifications saw in them a purely logical construction [...] Deleuze views them as morphogenetic, as if metric spaces were literally *born* from non-metric ones through a loss of symmetry [...]. While in cardinal series judgments of exact numerical identity of two series can be made, in ordinal series only rigorous judgments of greater or lesser *differences* can be made. Deleuze, whose ambition was always to create the first philosophical system based exclusively on positive differences, made a great deal out of this link. (The concept of 'positive difference' must be contrasted with the idea of difference as mere lack of similarity, an idea which introduces difference in a negative way, as an absence or deficit of resemblance.)⁷⁸

Where does all this leave us in terms of architecture? To adopt a topological approach to architecture and urbanism, we suggest, is to think in terms of capacities (to affect and be affected), rather than mere (intrinsic) properties. As Gregory Bateson maintained, capacity is always relational: "It makes no sense whatsoever to try to understand the anatomy of half a chicken."⁷⁹ By publicly denouncing the dialectic between nature and nurture (submission and dominance / empathy and abstraction), Koolhaas tacitly repudiates his own 'paranoid critical method' as exemplified by the famous Daliesque diagram.⁸⁰ The amorphous blob

⁷⁷ See: Gilles Deleuze and Claire Parnet, "Preface to the English Edition" in *Dialogues* (New York: Columbia UP, [1977] 1987), p. xii.

⁷⁸ See: Manuel DeLanda, "Materiality: Anexact and Intense" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p.373.

⁷⁹ In support of his 'half a chicken' metaphor Bateson uses Molière. In one of his comedies, the French playwright satirises the 'scholastic' way of talking by making one of his characters, a doctor, 'explain' the power of opium to put people to sleep by saying it has a 'dormitive power' whereas it is the very entering into a differential relation of the two series (organism and substance) that produces an effect. See: Gregory Bateson, "Lecture on Epistemology", <http://www.archive.org/details/GregoryBatesonOnEpistemology> (accessed May 25, 2011). In his contribution to *Questions of Taste*, Barry Smith echoes Gregory Bateson's view. See: Barry Smith, "The Objectivity of Taste and Tasting" in *Questions of taste: the Philosophy of Wine*, ed. Barry Smith (Oxford: Signal Books, 2007), pp. 41-78.

⁸⁰ In *Delirious New York* Koolhaas evoked the 'paranoid-critical method' of Salvador Dalí. Hal Foster explains: "[A] Surrealist way of reading in which a single motif is seen in multiple ways in a 'delirium of interpretation'. Such a method 'promises that, through conceptual recycling, the worn, consumed contents of the world can be recharged or enriched like uranium'. In effect, Koolhaas adapted this typological reprogramming as the formula for his own work, too: in a 'systematic overestimation of what exists', he often extrapolates one architectural element as the basis of his designs, or, in his writings, extrapolates an urban structure such as the skyscraper or the grid into a social agent or a historical subject. This is done not in order to affirm the commercial given, as Venturi et al. do in *Learning from Las Vegas*, nor to redeem the historical past, as Aldo Rossi

supported by the Cartesian crutch from *Delirious New York* (1978) still relied on 'retroactive reasoning' from the domain of the visible. Deleuze is helpful in considering an alternative approach to the obscure from the clear. He does not find it surprising that the dialectic should proceed by way of opposition and contradiction since, "It is unaware of the real element from which forces, their qualities and their relations derive; it only knows the inverted image of this element which is reflected in abstractly considered symptoms [...] Dialectic thrives on oppositions because it is unaware of far more subtle and subterranean differential mechanisms: topological displacements, typological variations."⁸¹

056 **Figural** Koolhaas' anti-dialectical stance resonates strongly with the thesis Deleuze outlines in his book on the painter Francis Bacon. Deleuze distances himself from both (natural) abstract expressionism and (cultural) abstraction *à la* Kandinsky.⁸² Neither a manual (action painting) nor an optical path. After all, Jackson Pollock is notorious for his statement that he does not paint from nature but that he *is* nature.⁸³ Following the 'logic of sensation' (neither rational, nor cerebral), Deleuze opts for a 'third way'- between not enough of order and too much of it - through the concept of the 'Figural' as opposed to figurative, which resists systematisation.⁸⁴ His hero is Francis Bacon who is 'working with sensations as material.'⁸⁵ In the words of the architecture theorist Jeffrey Kipnis:

advocated in his influential *Architecture of the City* (1966); yet, ideally, it has some of the communicative potential of the former and some of the mnemonic resonance of the latter." See: Hal Foster, *Design and Crime; and Other Diatribes*, (London: Verso, 2002) p. 52. See also: Rem Koolhaas, "Dali, The Critical Method and Le Corbusier" in *Supercritical* (London: AA Publications, 2010), pp. 88-93.

⁸¹ Gilles Deleuze, *Nietzsche and Philosophy* (New York: Columbia University Press, [1962] 2006), p. 157.

⁸² Gilles Deleuze, *Francis Bacon: The Logic of Sensation* (London and New York: Continuum, [1981] 2003), 73-77.

⁸³ As quoted by Lee Krasner in an interview with Dorothy Strickler (1964) for the Smithsonian Institution Archives of American Art. In Krasner's words, "When I brought Hofmann up to meet Pollock and see his work which was before we moved here, Hofmann's reaction was - one of the questions he asked Jackson was, do you work from nature? There were no still lifes around or models around and Jackson's answer was, "I am nature" And Hofmann's reply was, "Ah, but if you work by heart, you will repeat yourself." To which Jackson did not reply at all.' The meeting between Pollock and Hofmann took place in 1942.
<http://www.aaa.si.edu/collections/oralhistories/transcripts/krasne64.htm> (accessed May 25, 2011).

⁸⁴ See: Gilles Deleuze, "Painting Sets Writing Ablaze" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 181. "Figural, which is something other than figurative, precisely a production of Figures."

⁸⁵ In his first major philosophical work, *Discourse, Figure* (1971), Lyotard distinguished between the meaningfulness of linguistic signs and the meaningfulness of plastic arts. He

"This figural re-origination escapes fealty to either of the great superpowers, signification and phenomenology, not by negation but by a calculated appropriation: using tinctures of significance and phenomena, it short-circuits through narrative and sensual pathways to the nervous system, arriving there instantly as fully-formed signal. Such signals are therefore not only material - and disciplinary - specific, they are disciplinary specificity itself."⁸⁶ Be that as it may, the 'figural' is the desire or force that transgresses the 'good form' of mimetic representation. After all, "Desiring-machines are not in our heads, in our imagination, they are *inside the social and technical machines themselves*", as Guattari writes:

Our relationship with machines is not a relationship of invention or of imitation; we are not the cerebral fathers nor the disciplined sons of the machine. It is a relationship of peopling: we populate the social technical machines with desiring-machines, and we have no alternative. We are obliged to say at the same time: social technical machines are only conglomerates of desiring-machines under molar conditions that are historically determined; desiring-machines are social and technical machines restored to their determinant molecular conditions⁸⁷

The Figural does not signify or *communicate*, as Kipnis puts it. More generally, "An individual does not [even] communicate with his fellow humans", says Guattari, rather "a transhuman chain of organs is formed and enters into conjunction with semiotic chains and an intersection of material flows."⁸⁸ Using Francis Bacon as a paradigmatic example of by-passing the cerebral, Deleuze argues that art creates new intensities and sensations as a model of ethical behaviour which entails the creation of new productive forms of life free from

argued that, because rational thought or judgment is discursive and works of art are not, certain aspects of artistic meaning require a different treatment. Gilles Deleuze was highly influenced by Lyotard's criticism of adequacy of both Structuralism and Phenomenology which led him to opt for a kind of Expressionism. See: Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), pp. 26, 81. Similar concerns are anticipated by the American philosopher of art Susanne Langer, best exemplified by her *Feeling and Form: A Theory of Art* (New York: Scribners, 1953).

⁸⁶ Jeffrey Kipnis, "What We (Got) Need is - Failure to Communicate!!" in *Quaderns* (No. 245, April 2005), pp. 96-98.

⁸⁷ However, the difference between social technical machines and desiring-machines is not in the size, or even in the ends they serve, but in the regime that decides on the size and the ends. See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 106.

⁸⁸ See: Félix Guattari, "Everybody Wants to be a Fascist" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 164.

the negativity of judgment.⁸⁹ This is why common sense (*doxa*) is regarded as the worst enemy for governing our encounters with the world. In other words, the logic of sensation is an anoetic theory beyond *discourse* (of reason) and *figure* (of imagination).⁹⁰ But the 'dosage' of chaos needs to be 'right'. The question is as always 'how much'? Creation becomes a rigorous semi-aleatory process.⁹¹ The architect too might be said to be in the business of the 'distribution of the sensible' (and insensible).⁹² Certainly, these considerations call for a radical rethinking of media specificity at both the material and immaterial intersections of aesthetics and politics. It is precisely the attitude of cutting across the prevailing dichotomies (nature/culture, matter/thought, aesthetics/politics) that provides Bacon with the 'goggles' to access the virtual. It is arguably for the same reason that Koolhaas conspicuously aligns his current work with that of a true architectural maverick - Buckminster Fuller.

Naturally, this is not the first time that the founding partner of the Office for Metropolitan Architecture is rethinking his strategies. Another of his widely published and very influential diagrams was revamped, at least verbally, on the occasion of the 2007 *Intelligent Coast* conference in Barcelona. Asked to comment on the Dubai urban strategy he replied that it was about an "ongoing developers' orgasm" of total saturation. He seems to have taken seriously Jeffrey Kipnis' criticism of the OMA *Masterplan for the Urban Design Forum in Yokohama* where they similarly proposed a programming that was to guarantee round the clock (24/7) activity.⁹³ A guarantee that no longer holds as Koolhaas

⁸⁹ Deleuze credits Lyotard with the first systematic attack on structuralism in his opposition between *Discourse* and *Figure*, that is, between structural linguistics (Saussure) and phenomenology (Merleau-Ponty). However, they eventually parted company. See: Marty Slaughter, "The Arc and the Zip: Deleuze and Lyotard on Art" in *Law and Critique* (No. 15, 2004), pp. 231-257. "While Lyotard and Deleuze started from a common point, Lyotard changed his position in his later work on the sublime. Rather than positing a subject of purely affirmative desire and ideally free of the limitations of judgment, he posited a subject seized by and limited by the law. The subject is by nature divided: always already seized by and hostage to an Other, an unrepresentable excess or remainder. He is under an obligation to recollect and respond to the Other by bearing witness to it. The sublime experience of seizure by the law is exemplified in the paintings of Barnett Newman. While Deleuze would have done with judgment, Lyotard can never have done with it."

⁹⁰ As well as beyond oppositions such as fact/value, understanding/reason, content/expression, thought/world, etc.

⁹¹ This attitude explains the antipathy Deleuze felt for the all-too-arbitrary Surrealism.

⁹² 'The distribution of the sensible' is a reference to the subtitle of a book by Jacques Rancière who reassesses the centrality of aesthetics to politics. See: Jacques Rancière, *The Politics of Aesthetics: The Distribution of the Sensible* (London and New York: Continuum, 2004).

⁹³ It is rather ironic that Kipnis, who is versed in dynamic systems theory, would not demonstrate the same scrutiny when in 2002 he curated the *Mood River: An International*

knows full well that, although anything is possible in the world of design, it might not be the case in the design of the world.⁹⁴ The manifold does indeed contain remarkable (singular) points, but it also includes ordinary ones. It is a matter of consistency, of holding. Any and every-thing does not go. [Table xxv] Through its 'anexact yet rigorous' approach to the genesis of form, OMA offers an emancipating alternative to both Minimalist and Parametricist claimants of the status of contemporary architectural avant-garde.⁹⁵ It continues to avoid the all-too-autonomous 'critical' white cube and the all-too-complacent 'high performance' bio-mimicry.⁹⁶

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Ontological EVENT	Epistemological LAW
Singularities	Categories
Proper noun	Common noun
Difference	Generality
Ontology	Predication
+++++	

xxv **Materialism of the Virtual**

3.1.3 Ecologies

057 **Feeling** Architecture is a non-discursive practice. Formed materiality (territorialisation) and its expressivity (coding) are irreducible and must not be confused with the 'specialised lines of expression', such as genes and words. The self-proclaimed trans-architect Marcos Novak, who often does the wrong things (melting all that is solid into air) for all the right reasons hits the mark with a

Exhibition Examining Impact of Design on Contemporary Life at the Wexner Center for the Arts, Columbus, Ohio. This aesthetically pleasing show was the perfect example of what Deleuze would denounce as the fallacy of 'tracing'.

⁹⁴ According to Jeffrey Kipnis, for a truly complex self organising system it is crucial to operate far from equilibrium. The source of energy that feeds it drives it continuously away from equilibrium. Contemporary architectural theory, on the other hand, is often driven by the equilibrium model.

⁹⁵ The cleavage is not dissimilar to the one between 'graphic expediency' and 'digital intricacy' proposed by Somol, which we referred to as 'simulated simplicity' vs. 'simulated complexity'. See: Robert E. Somol "Green Dots 101" in *Hunch* 11 (Rotterdam: Episode Publishers, 2007), pp. 30-32, 35. According to Somol, historically Venturi and Hejduk belong to the expediency camp while Frampton and Eisenman belong to the intricacy camp. The former operate through shed/decoration and character/figuration respectively, while the latter operate through tectonics/articulation and index/notation.

⁹⁶ See: Michael K. Hays, "Critical Architecture Between Culture and Form" in *Perspecta* (No. 21, 1981), pp. 14-29.

statement implicitly related to Kant's *Critique of the Power of Judgement* (1790): "There is meaning before language, meaning before taxonomy, meaning before discourse, (...) beauty is multi-modal formalism, is a very, very deep thing - the mind and the body are not separate and the whole thing is about not being mimetic."⁹⁷ It is therefore possible to argue that the *Third Critique* does not simply 'complete' the other two, but in fact provides them with a (groundless) ground. In the words of Brian Massumi:

Alfred North Whitehead characterized his philosophy of process as a 'critique of pure feeling.' William James, with whose thought Whitehead aligned his own, considered a notion of 'pure experience' an indispensable starting point for philosophy practiced as what he termed a radical empiricism. In both of these formulae, what the qualifier 'pure' asserts is *a world of experience prior to any possibility of apportioning reality along a subject/object divide or positioning it in preconstituted time and space coordinates*. These, on the contrary, are understood as emergences from feeling. The world, for Whitehead and James, is literally made of feeling. Often misunderstood as a solipsism or anything-goes voluntarism, these approaches on the contrary see themselves as rigorous philosophies of determination, no less than of novelty of emergence and creative formation.⁹⁸ [emphasis added]

058 **Emergence vs. Teleology** Reality is in excess to the phenomenal. Content is bigger than the form: "How many fingers?" asked Gregory Bateson raising his hand at a public lecture in anticipation of the wrong answer. 'Five', readily answers the puzzled audience. 'Wrong', replies Bateson with perverse delight. The answer is 'No', because the five fingers are but a derivative of the *four* bifurcations that allow for a *numberless* set of relations.⁹⁹ This is the standard Batesonian lesson about the inevitable tautology inherent in our predominant epistemology. It is in fact the objective order of the world that 'detaches' itself from the qualitative order, to which it owes its emergence.¹⁰⁰ We seem to be condemned to misplacing concreteness by mistaking an abstract belief, opinion or concept about the way things are, for a concrete reality. In other words, by the

⁹⁷ Novak ought to be credited for his extensive use of the word 'beauty' which has effectively disappeared from recent architectural discourse. See: Marcos Novak, "Alloaesthetics and Neuroaesthetics: Travel through Phenomenology and Neurophysiology" in *Journal of Neuro-Aesthetic Theory* (No. 4, 2005), <http://www.artbrain.org/neuroaesthetics/novak.html> (accessed May 25, 2011).

⁹⁸ <http://www.arts.cornell.edu/sochum/sct/courses.html> (accessed January 3, 2009).

⁹⁹ Gregory Bateson, *Lecture on Epistemology*.
<http://www.archive.org/details/GregoryBatesonOnEpistemology> (accessed May 25, 2011).

¹⁰⁰ Brian Massumi, "The Archive of Experience" in *Information is Alive: Art and Theory on Archiving and Retrieving Data*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Organisatie/EU European Culture 2000 Program, 2003), p. 147.

time we perceive Bateson's five fingers through 'presentational immediacy', 'causal efficacy' will have kicked in, passing below the threshold of consciousness (the very same consciousness that works so hard to ensure its superior role). Our bodily experience is primarily an experience of the dependence of presentational immediacy upon causal efficacy and not the other way around.¹⁰¹ The real world is always a world of effects (events), not quantities. 'Physical world' is a concept.¹⁰² This, of course, is as counter-intuitive as Deleuze's positing of difference before identity in his metaphysics, or Gibson's emphasis on the movement at the basis of perception.¹⁰³ To put it bluntly, consciousness is overrated as Katherine Hayles rightly claims:

In the posthuman view [...] conscious agency has never been 'in control'. In fact the very illusion of control bespeaks a fundamental ignorance about the nature of the emergent processes through which consciousness, the organism, and the environment are constituted. Mastery through the exercise of autonomous will is merely the story consciousness tells itself to explain results that actually come about through chaotic dynamics and emergent structures [...] emergence replaces teleology; reflexivity replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject's manifest destiny to dominate and control nature.¹⁰⁴

¹⁰¹ See: Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (New York: Free Press, 1978). Based on the Gifford Lectures which he delivered at the University of Edinburgh in 1927-28.

¹⁰² Brian Massumi: "The Diagram as Technique of Existence" from *ANY: Diagram Work*, ed. Ben van Berkel and Caroline Bos (New York: Vol. 23, 1998), p. 44. "[W]e are saying that form, figure/ground, depth, Euclidian space, and linear time are not foundations or containers of perception. Experience cannot be derived from them; it is they that are derived from experience. Experience cannot be contained by them; they are the contents. They are derivations of a more open process: superadditions of habit. *Creatures of habit, not grounds of perception.*" [emphasis added]

¹⁰³ See: John Protevi, "Deleuze, Guattari and Emergence" in *Paragraph: A Journal of Modern Critical Theory* (No. 29.2, July 2006), pp. 19-39. "The concept of the organism as enactive in Varela's later work is much closer to DG's [Deleuze and Guattari's] interests in describing diachronic transversal emergence, as here we loop into the environment. Perception is no longer simply triggering of response, but comes from action in the environment, from movement. Cognitive structures emerge from recurrent sensory-motor patterns. Cognition, perception, and moving action are all intertwined in 'structural coupling' with the world and are all needed for development. Each organism enacts a world for itself in bringing forth what is significant to it, what has 'surplus signification'."

¹⁰⁴ Katherine Hayles, *How We Became Posthuman; Virtual bodies in Cybernetics, literature, and informatics* (London: The University of Chicago Press, 1999), p. 288.

There is possibly one thing which is even more damaging for creativity - provided that we are interested in the problem of the new and not merely in bare repetition - and it is meta-consciousness. Consciousness about consciousness supplants the ontological problem of *creation* by the epistemological problem of *foundation*. Goethe knew how 'unproductive' this was, as Jochen Hörisch argues in his *Theoretical Pharmacy*.¹⁰⁵ So did the main protagonists of *Delirious New York* who, despite their outstanding intelligence, acknowledged the necessity of keeping a distance from their own self-awareness. It is this particular attitude of the first generation of New York architects, according to Koolhaas, that allowed the aspirations of the collective to coincide effortlessly with those of a client: "I had the idea that this was something we would never see again. That we were condemned to consciousness."¹⁰⁶

3.1.4 Individuation

059 **Formalisms: Good and Bad** There is a strange paradox with this new materialism which has in comparison to its opposite - idealism - turned out rather 'formalist' as a project. But this is not the pejorative formalism where the process and the product are conflated. It is the 'good' formalism in the tradition of the 'greatest formalists such as Goethe and Foucault,' as Kwinter explains:

The very idea that the figure (...) might enfold within it a resonant, transmissible logic of internal control, one that can be at once dissociated from its material substrate *and* maintained in communicative tension with it, was once an assertion of great contentiousness. The moment of its rigorous demonstration became one of the watersheds, not only of modern aesthetics, but of modern science and philosophy as well.¹⁰⁷

Goethe is the father of the modern concept of diagram insofar as he insisted on formation as the locus of explanation, not simple appearance.¹⁰⁸ The shift from

¹⁰⁵ See: Jochen Hörisch, *Theorie-Apotheke: Eine Handreichung zu den humanwissenschaftlichen Theorien der letzten fünfzig Jahre, einschließlich ihrer Risiken und Nebenwirkungen* (Frankfurt: Eichborn, 2005), p. 201.

¹⁰⁶ Ole Bouman and Roemer van Toorn, 'Architecture at Remdom; The Blinkers that Make the Visionary' in *The Invisible in Architecture* (London: Academy Editions, 1994).

¹⁰⁷ Goethe was arguably the first to have rejected the (apodictic) Kantian-Newtonian model in favour of the modern genetic interpretation of form. See: Sanford Kwinter, "Who's Afraid of Formalism?" in *Phylogenesis: FOA's Ark*, ed. Michael Kubo and Albert Ferré with FOA (Barcelona: Actar, 2003), pp. 96-99.

¹⁰⁸ Sanford Kwinter, "The Genealogy of Models: The Hammer and the Song" in *ANY: Diagram Work*, ed. Ben Van Berkel and Caroline Bos (New York: Vol. 23, 1998), pp. 57-62.

the 'generic' to the 'genetic' approach should be good news for architects since they are good at handling form(ation). However, the radically new 'logic of becoming' presupposes the existence of both the 'form of content' and 'form of expression'. The bad news is that there is no 'form of forms' to bridge the gap.¹⁰⁹ As Alberto Toscano explains: "Rather than representing abstract entities at a remove from the vicissitudes of ontogenesis, structures as internal multiplicities are at once static (or atemporal) and dynamic (or genetic)."¹¹⁰ Thus, the concept of (continuous) multiplicity, as synonymous with becoming, provides the clue to the articulation between these two seemingly incompatible determinations. The dissymmetry between pre-individual virtuality and individuated actuality allows us to understand why Deleuze regards structuralism as a philosophy of the 'inessential':

To the extent that the implicate order of the structure as virtual idea changes in kind through division and actualization, the structure can in no way provide the One of an actual Multiple [against Badiou's critique]. Whilst its (reciprocal and complete) determination as internal difference [...] affords it a singular form of individuality, it cannot provide the actual with a form of identity in which the latter would be able to recognize itself. This is why structure cannot answer the 'What?' question, the question of essence, substance or universality. Instead, Deleuze proposes to consider structure as a concrete universal, such that actual things can be viewed as local solutions that explicate the ideal and asignifying connections implicated in the former's virtual constitution. This is why the 'accompaniment' in thought of these processes of realization or individuation is what defines Deleuze's practice as a 'method of dramatization'.¹¹¹

The virtual and actual need to be always thought together, as Brian Massumi rightly insists: "The virtual is neither an input nor an output but rather a throughput." This throughput is the 'fuel' of individuation as proposed by Gilbert Simondon. It is an intensive 'transversal' process that 'unfolds' the 'universal singular' (concrete universal) into the actual (individual singular), in contrast to the vertical axis of the general/particular: "It is the individual which is above the species, and precedes the species in principle."¹¹² [Table xxvi] However, one

¹⁰⁹ This intricate interdependence has been the fulcrum of the author's architectural practice in partnership with Igor Vrbanek. <http://www.arhikord.hr> (accessed May 25, 2011).

¹¹⁰ Alberto Toscano, *The Theatre of Production: Philosophy and Individuation between Kant and Deleuze* (Basingstoke: Palgrave Macmillan, 2006), p. 169.

¹¹¹ Alberto Toscano, *The Theatre of Production: Philosophy and Individuation between Kant and Deleuze* (Basingstoke: Palgrave Macmillan, 2006), p. 169.

¹¹² See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 250.

needs to avoid the nominalist trap of claiming that only the particular matters.¹¹³ The real 'battlefield' is at the level of a 'difference that makes a difference,' to cite Bateson once again. This is the level of a 'Problem'(virtual idea), a genuine reservoir of potentiality (pure difference) of the 'static genesis' with a temporal form of *aion*.¹¹⁴ Deleuze defines them as static for being impassively indifferent to the measurable space-time and the discrete magnitudes that characterise individuated actuality. Nevertheless, this true 'locus' of dramatisation is where singularities that run 'molecular functionalism' are to be found. By contrast, to operate exclusively alongside the 'dynamic genesis' - the unfolding of *chronos* - is 'futile'. "[M]achinic reasons are entirely different from logical reasons or possibilities."¹¹⁵ Perhaps this is why Walter Benjamin considered both Art Deco (aestheticisation of technology) and Futurism (technologisation of aesthetics) as failures.¹¹⁶ The criticism equally applies to the data fetishism of today which is also fixated on actuality (presentational immediacy).

+++++			
general		<i>aion</i>	universal singular
	POSSIBLE	VIRTUAL (V)	
homology		INTENSIVE	progress. differentiation
	REAL	ACTUAL (A)	
particular		<i>chronos</i>	individual singular
		+++	
	DYNAMIC GENESIS (DG): A sensations > V ideas		
	STATIC GENESIS (SG): V idea > A being		
+++++			

xxvi

Aion vs. Chronos: *Aion is pure incorporeal time of coexisting events, while chronos is time as movement.*¹¹⁷

Bacon's work offers an alternative to both the (too slow) 'code' of Kandinsky and the (too rapid) 'chaos' of Pollock. It is seen as diagrammatic in the true

¹¹³ It is a nominalist assertion that there exist only individuals, singular entities. *Socrates exists*, but not Man. Universals are fiction, a convenience, linguistic actualisations without worldly correlates.

¹¹⁴ Considered in the mutual immanence of the differential relations that compose it, structure is *static*, indifferent to the measurable space-time and the discrete magnitudes that characterise individuated actuality.

¹¹⁵ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 316.

¹¹⁶ Susan Buck-Morss, *The Dialectics of Seeing: Walter Benjamin and the Arcades Project* (Cambridge, Massachusetts: The MIT Press, 1991), pp. 144-145.

¹¹⁷ See: John Protevi, "Deleuze, Jonas, and Thompson: Toward a new Transcendental Aesthetic and a New Question of Panpsychism" (Montreal: SPEP, 2010). <http://protevi.com/john/research.html> (accessed May 25, 2011).

Foucauldian sense: it does not render *the* visible, but it renders visible, as Paul Klee would have it. Phenomenology with its maxim 'back to phenomena' will obviously not suffice here.¹¹⁸ It is for this very reason that Deleuze is keen to appropriate the term Expressionism. As Steven Shaviro explains: "phenomena are generated out of the encounter between subject and object in Kant - but if one is willing to let rocks, stones, armies, and Exxon join in the fun of being excluded from the in-itself, then we can say that phenomena are positively generated out of *all* encounters between objects."¹¹⁹ Phenomenology remains all-too-human, and therefore - in spite (or perhaps because) of its anthropocentrism - ultimately turns out to be anti-human and even suicidal, as Claire Coolebrook recently argued.¹²⁰ For phenomenology (Husserl), consciousness is always *of* something (antecedent), whereas for Deleuze *qua* Bergson it *is* something. The correlationism of how I as a fully constituted subject perceive that object over there is to be met with the same rigour of Batesonian scepticism. Ecology is a welcome replacement for phenomenology, as eloquently stated by the Gibsonian William Mace:

Ask not what's inside your head, but what your head's inside of.¹²¹

060 Niche Construction The view based on common sense must be completely reversed. Rather than defining the situation in terms of its components, the components, including man himself, can be defined only in terms of the situation in which they are encountered.¹²² As the theorist of 'niche construction' John Odling-Smee explains, the adaptations of organisms have been treated as consequences of independent natural selection pressures which moulded

¹¹⁸ See: Leonard Lawlor, "The end of phenomenology: Expressionism in Deleuze and Merleau-Ponty" in *Continental Philosophy Review* (No. 31, 1998), p. 27. "The decisive question is this: can phenomenology be anything other than a phenomenology of subjectivity (as the general form of all subjects)? According to Deleuze, as soon as a philosopher turns immanence into immanence to consciousness, the difference between ground and grounded collapses. Generality, resemblance, and analogy determine all relations."

¹¹⁹ <http://www.shaviro.com/Blog/?p=712> (accessed May 25, 2011). Shaviro's latest book furthers this research. See: Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* (Cambridge, Massachusetts: The MIT Press, 2009).

¹²⁰ Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), pp. 22-43.

¹²¹ See: William M. Mace, "James J. Gibson's Strategy for Perceiving: Ask Not What's Inside Your Head, but What Your Head's Inside of" in *Perceiving, acting and knowing: Toward an ecological psychology*, ed. Robert Shaw and John Bransford, (Hillsdale, NJ: L. Erlbaum Associates, 1977), pp. 43-65.

¹²² William H. Ittelson, "Environment Perception and Contemporary Perceptual Theory" in *Environment and Cognition*, ed. W.H. Ittelson (New York: Seminar Press, 1973), p. 153.

organisms to fit pre-established environmental templates. The templates themselves are dynamic because processes that are independent of organisms change the worlds to which organisms have to adapt. However, the changes that organisms bring about in their own worlds are seldom thought to have evolutionary significance. This needs to change because the evolution of organisms now depends on both natural selection and niche construction: "[S]elected habitats, modified habitats, and modified sources of natural selection in those habitats are also transmitted by the same organisms to their descendents, as a consequence of their niche-constructing activities, through a second general inheritance system in evolution, *ecological inheritance*."¹²³ The eminent geneticist Eva Jablonka makes a similar case for what she calls *Evolution in Four Dimensions*. The first dimension discussed is the genetic. The second dimension is epigenetic, which encompasses all those characteristics of cells and organisms that are heritable without being written into a genome's DNA sequence. Behaviour constitutes the third dimension. The behaviour of the young is guided in non-genetic ways by that of their parents. Finally, symbolic inheritance systems, foremost among them language, make up the fourth dimension. As Jablonka concludes: "All types of heritable variations and their interactions with each other and the environment have to be incorporated into evolutionary theorizing. [...] These four ways of transmitting information, with their very different properties, mechanisms and dynamics, are not independent, and their interactions have been important in evolution."¹²⁴ Niche construction can thus be understood as a form of 'extended inheritance' or epiphylogenetics. Once again, ask not what's inside the genes you inherited, but what your genes are inside of.¹²⁵ The futurist Bruce Sterling was proven right in claiming that artists

¹²³ See: John Odling-Smee, "Niche Inheritance: A Possible Basis for Classifying Multiple Inheritance Systems in Evolution" in *Biological Theory* (Vol. 2, No. 3, 2007), p. 278.

¹²⁴ See: Eva Jablonka and Marion J. Lamb, "Précis of Evolution in Four Dimensions," in *Behavioral and Brain Sciences* (No. 30, 2007), p. 362. "We predict that [...] the 21st century will be seen as revolutionary [...] for evolutionary theory. The effects of the synthesis that is now emerging, which incorporates development, will be comparable, we believe, to the revolutionary change that followed the introduction of Mendelian genetics into evolutionary thinking during the Modern Synthesis of the late 1930s. Like the former [Modern] synthesis, the emerging 'post-Modern' synthesis is the result of a collective effort. It brings together the mass of information coming from the many branches of molecular biology, developmental biology, medicine, ecology, hybridization studies, experimental studies of behavior, developmental and social psychology, the cognitive sciences, anthropology and sociology. The new version of evolutionary theory can no longer be called neo-Darwinian, because it includes, in addition to the neo-Darwinian process of selection of randomly generated small variations, significant Lamarckian and saltational processes. Whatever it is called, a new transformed Darwinian theory is upon us."

¹²⁵ See: Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (Cambridge, MA: Harvard UP, 2000).

(architects) are interesting people with dull ideas, while scientists are dull people with interesting ideas. The virtual space of (at least) four dimensions is infamously ungraspable and it is in the process of *individuation* and only there (then?) that one might be able to visualise it, as beautifully proposed by the biologist Conrad Waddington and his *epigenetic landscape* to which we now turn.

061 **Chreod** The epigenetic (fitness) landscape, later to become 'chreod', is a visual analogy of the meta-stable pathways of development diagrammed as a (morphogenetic) 'pinball machine', with the (morphic) ball 'channelled'. Rendering the intensive *process* palpable deserves the three cheers from the opening poem 'Magic Words'. That is why Sanford Kwinter rightly considers the 'Chreod' as the greatest achievement of twentieth century thought. This neologism of Conrad Waddington's denotes the necessary path of any becoming. Of course, there is hardly anything necessary about it once we appropriate the *reciprocal* determination between the actual and virtual. It is a 'figure of time'. As Kwinter explains, a chreod refers to an invisible but not imaginary feature in an invisible but not imaginary landscape on which a developing form gathers the information and influence necessary for it to make itself what it is. It deserves to be quoted at length for its unique didactic power:

Forms develop on such virtual landscapes not simply because they need a way to determine what they should look like and how they should behave, but because all forms are products of forces in the world that require resolution. [...] The landscape or surface on which forms develop is a model that allows multiple forces to engage one another [...] To understand the concept of the chreod one must first accept the premise that forces organize within, and give shape to, virtual landscapes that then serve as the molds or templates for form development. These landscapes are of course just models - essentially mathematical or topological models - even though they can also be actual landscapes, too [...]

Kwinter is keen to underscore that the fitness landscape itself resists reification. However, for the sake of visualising, he invites us to trace a runoff of melting snow in an Alpine valley caused by gravity. It harks back to the analogy with the topography of the kind that we have seen with Russell and the four points by Thelen and Smith. The point is that although the actual path that a drop of water takes determines its singular form, the larger parameters of what path it could take are nevertheless highly constrained. This leads Kwinter to conclude that every (actual) form incorporates the limits of the (virtual) chreod in which it forms:

It is very important not to think of chreods as fixed molds or templates but rather as pathways. Chreods capture and channel forces and direct them to interact with matter over time. They do not rigidly determine forms, but simply direct, constrain and protect their development. Every form reflects and resembles the chreod in which it took form, yet no form is ever a direct copy of the chreod that produced it. [...] The chreod contributes both the general plan to the form but also, given the fact that it is a highly oriented landscape feature such as a steep incline, the very compulsion to become form. [...] For where there is communication between points, indeed where there is time, there will be form.¹²⁶

A good illustration is Goethe's *Urpflanz*, although the term is misleading insofar as its prefix signifies the origin. The genius of Goethe lay in his ability to see the (morphogenetic) Chreod beyond the actuality of the plant.¹²⁷ In other words, if Bateson had had a chance to hold this flower in his hand and ask 'How many petals?' Goethe would have most certainly answered - 'No. It is the wrong question.' The more general lesson of Chreod is this: the stable regularities we see in actuality might not have specific causes that can be demarcated and isolated but may only be understood as a dynamic cascade of many processes operating over time.¹²⁸

062 **Univocity** With the thesis of *univocity*, Deleuze finally dispels all dualisms: "being is said of all things in the same sense." In Deleuze's words: "Univocal being is precisely what Spinoza defines as being the substance having all attributes equal, having all things as modes. The modes of substance are beings [...] a kind of plane on which everything falls back and where everything is inscribed. [...] The whole escapes us. We are not quick enough to keep

¹²⁶ See: Sanford Kwinter, "A Discourse on Method (For the Proper Conduct of Reason and the Search for Efficacy in Design)" in *Explorations in Architecture; Teaching, Design, Research*, ed. Reto Geiser (Basel: Birkhäuser, 2008), pp. 40-45.

¹²⁷ See: Eva-Maria Simms, "Goethe, Husserl, and the Crisis of the European Sciences" in *Janus Head* (Vol. 8, No. 1, 2005), pp. 160-172. "There is no primal plant in the physical, temporal world, because living beings are bound and changed by the flow of time. But in the human imagination the fullness of time can be grasped and represented. That is why Goethe saw *Urpflanze* in the garden of Italy: through imaginative variation or what he called exact sensory imagination, he followed the total unfolding of a plant and grasped its essential, protean form in time."

¹²⁸ We never see these 'invisible moving moulds' directly but only in retrospect. See: Sanford Kwinter, "Hydraulic Vision" in *Mood River*, ed. Jeffrey Kipnis and Annetta Massie (Columbus, Ohio: Wexner Center for the Arts, 2002), pp. 32-33.

everything together."¹²⁹ The individuating process exceeds each individual being produced therein. The question thus remains how to think relation (process) exterior to its terms (individuals). This could not be done from the so-called third space of 'lived experience', which was to allegedly counteract instrumental rationality and the consequent mathematisation of life. The postmodern potion of Dionysius' passion to complement the modernist Apollo's cool did not work either. All these attempts never left the realm of Bateson's five fingers. The strategy of *defamiliarisation* also reached its limits.¹³⁰ It was promising in the attempt to circumvent straightforward re-cognition (are they five fingers or something else?). However, it failed to meet the requirement of engendering an alternative (space for) life. More often than not, it remained at the level of indulging in object fetishism.

In contrast, Kwinter's 'radical anamnesis' requires remembering not the past that has happened but the past that has not happened although it might have.¹³¹ This marks a cardinal difference between the mere possible (always retroactive hypostatisation) and the reservoir of pure potentiality of the (ideal yet real) virtual. This is most pertinent since the distinction between potentiality (as a possibility) and virtuality also entails the difference between chance and contingency.¹³² The former is deterministic, as in rolling the dice, while the latter is aleatory and eventful (almost *ex nihilo*). Meillassoux explains the difference as follows: "Potentialities [possibilities] are non actualised cases of an indexed set of possibilities under the condition of a given law."¹³³ Hence, each face of the dice participates with one sixth (1/6). By contrast, (true) chance is every actualisation of a potentiality for which there is no univocal instance of determination on the basis of the initial condition. To put it simply, in the

¹²⁹ See: Gilles Deleuze, *Cours Vincennes*: "Deleuze/Spinoza" (November 25, 1980), <http://www.webdeleuze.com/php/texte.php?cle=17&groupe=Spinoza&langue=2> (accessed May 25, 2011).

¹³⁰ The term 'defamiliarization/ostranenie' was coined by the Russian formalist Victor Shklovsky, *Art as Technique*, (1917): "The purpose of art is to impart the sensation of things as they are perceived and not as they are known. The technique of art is to make objects 'unfamiliar', to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged. Art is a way of experiencing the artfulness of an object; the object is not important." <http://www.fas.harvard.edu/~cultagen/academic/shklovsky1.pdf> (accessed May 25, 2011).

¹³¹ Sanford Kwinter, "Radical Anamnesis (Mourning the Future)" in *Far From Equilibrium: Essays on Technology and Design Culture* (Barcelona: Actar, 2008), pp. 140-142.

¹³² See: Quentin Meillassoux, "Potentiality and Virtuality" in *Collapse: Speculative Realism*, ed. Robin Macay (Vol. II, March 2007).

¹³³ See: Quentin Meillassoux, "Potentiality and Virtuality" in *Collapse: Speculative Realism*, ed. Robin Macay (Vol. II, March 2007), pp. 71-72.

analogy of the dice, the question is: one divided by how much? (1/?).¹³⁴ The answer, of course, is impossible given the condition of an incoherent and impossible totality.¹³⁵ Standard linear problems, such as arithmetic, imbue the solver with a sense of a steady gradual effortful approach to the solution. By contrast, the phase space taken as the intuition synthesiser usually causes the solver to go through a period of impasse, where (after having arrived at a number of erroneous solutions) no viable option seems forthcoming, and then, 'out of the blue' (from a certain portion of experience), the solution emerges seemingly all by itself. The case of epiphany? No, it is a keystone example of phase transition under the concept of emergence. Rational information processing, such as planning, often breaks down under the weight of too many variables that are shifting too quickly. When the liminal condition is reached, as Kwinter explains, it gives way to spontaneous material intelligence: "to the archaic way of proceeding by fuel and by flow and by following the grain of the world unfolding - to the process of *becoming material* oneself. It is said that at the edge we encounter danger, but this is just another way of saying that there we are forced to communicate critically with a great many dimensions at once."¹³⁶ The liminal condition is *de facto* a communicative interface. Just as Merleau-Ponty remarked, "My own words take me by surprise and teach me what I think," the same may be said of drawing, says Adrian Forty.¹³⁷ One's thoughts often appear as though they are composed of 'individuated elements' but cognitive scientists Michael Spivey and Rick Dale require that we look more closely:

[W]ith continuous online experimental measures such as eye-tracking and computer-mouse-tracking [...], it is possible to see that mental activity is also being conducted in between those seemingly discrete thoughts. Thus we argue that cognition is best analyzed as a continuously dynamic biological process, not as staccato series of abstract computer-like symbols.¹³⁸

¹³⁴ "If potentialities can be probalized, [...] virtualities cannot, by reason of the transfinite character of the number of possible." See: "Interview with Quentin Meillassoux" by Graham Harman in *Quentin Meillassoux: Philosophy in the Making* (Edinburgh, Edinburgh UP, 2011), pp. 159-174.

¹³⁵ Consider in this respect the difference between the feelings of fear and anxiety. Unlike fear, anxiety has no (apparent) object.

¹³⁶ 'Material intelligence' in architecture is akin to 'intuition' in philosophy or 'universal computation' in science. See: Sanford Kwinter, "Flying the Bullet, or when did the future begin?" in *Rem Koolhaas: Conversation with Students* (New York: Princeton Architectural Press, 1996), pp. 72-73.

¹³⁷ Quoted in: Adrian Forty, *Words and Buildings: a Vocabulary of Modern Architecture* (New York: Thames & Hudson, 2000), p. 33.

¹³⁸ See: Michael J. Spivey and Rick Dale: "Continuous Dynamics in Real-Time Cognition" in *Current Directions in Psychological Science* (Vol. 15, No. 5, 2006), p. 207.

3.2 Flat Ontology

3.2.1 Superior Empiricism

063 **Process Ontology** Even materialism needs to eventually come to terms with the 'spiritual'. Deleuze's answer is 'transcendental empiricism'. To think immanence transcendently is in no way a question of philosophical inconsistency. His approach is transcendental in its refusal of any image of thought (consciousness) and it is empirical in its openness to affective encounters. It is absolutely crucial, however, not to model the transcendental after the empirical as Kant did.¹³⁹ Instead of elevating the empirical to the transcendental, Deleuze describes the "real structure of the transcendental" *without* reference to the empirical. The formation and form, the emerging and the emerged, pertain to two modes of *one* reality. Everything starts from the sensible but is subsequently extended into the intelligible. It could be argued that sensations mobilise the differential forces that make thinking possible. This is what Deleuze means by 'pedagogy of the senses'. The convergence of thought and matter is diagrammed in *The Fold: Leibniz and The Baroque* (1988) as two floors of a baroque house connected by 'draperies'. [Table xxvii] It is important to stress yet again that there is no structural homology between the two floors. To borrow Dan Dennett's powerful metaphor, there is no *homunculus* sitting in the Cartesian theatre (where all the evidence is gathered). The form of expression and the form of content do not share a form. There is no meta-form. There is only folding and unfolding of progressive differentiation. What connects the two is a process.¹⁴⁰ Deleuze's main adversary in this respect is not Plato but the great systemiser Aristotle who 'operates' between the general and the particular on the basis of resemblance or representation. Deleuze is also well known for his hostility towards the greatest

¹³⁹ See: Miguel de Beistegui, *Immanence: Deleuze and Philosophy* (Edinburgh: Edinburgh UP, 2010), p. 6. See also: Gilles Deleuze, "Letter-Preface to Jean-Clet Martin" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), pp. 362-363. "Transcendental empiricism is meaningless indeed unless its conditions are specified. But the transcendental 'field' must not be copied from the empirical, as in Kant. It must be explored on its own terms: 'experienced' or 'attempted' (but it is a very particular type of experience). This is the type of experience that enables the discovery of multiplicities [...] stick to the concrete, and always return to it. Multiplicity, ritornello, sensation, etc., are all developed into pure concepts, but strictly speaking, they are inseparable from the passage from one concept to another. This is why we must avoid giving one term ascendancy over the others [...]."

¹⁴⁰ Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 5.

064 **Continuity vs. Discreteness** The Aristotelian syllogism, which has not lost a scintilla of its prestige over the past two millennia, is still indispensable for discrete (binary) logic. So is Euclidian mathematics for metric space, as well as Newtonian physics for isotropic space. But when it comes to the logic of continuity it is Leibniz who provides the much needed conceptual tools. More recently, Deleuze recognised the creative potential of science in general, and differential calculus in particular, to deal with becoming. As we have seen, the three-hundred-year-old mathematical convention allows for the treatment of relations independently of their terms. Differential relations as linked rates of change shift the emphasis from signification to significance, or to the distribution of singularities structuring the manifold. The clear emerges from the obscure. The five fingers emerge from a topological 'body-plan', the very same plan that unfolds into a flipper or a wing.¹⁴⁴ As Stiegler repeatedly advocates, privileging *episteme* over *tekhne* needs to be rethought. It is most unfortunate that the self-appointed guardians of disciplinary boundaries are working hard to keep the realms separate. It is equally damaging to privilege linguistic theories on account of their academic prestige given the limitations of the representational approach. Humanities are bankrupt when it comes to dynamic far-from-equilibrium systems.¹⁴⁵ They cannot but commit the fallacy of 'tracing' - conflating the process with the product. Deleuze's alternative is to conceive of Being itself as neither/nor, as Ray Brassier explains. This is how he spells out the (in)famous concept of *inclusive disjunction* of actual equivocity and virtual univocity:

The inclusive disjunction is characterized by a unilateral asymmetry: the actual distinguishes itself from the virtual without the virtual distinguishing itself from the actual in return. [...] Being must always be said *both* as virtual and actual; as deterritorialization and as reterritorialization; as smooth space and as striated space; as anorganic life and as strata; as nomadic distribution and as sedentary hierarchy."¹⁴⁶ [emphasis in the original]

¹⁴⁴ The basic idea is that of a common source of form, a 'body-plan' which, through folding and stretching during embryological development, is capable of generating a wide variety of specific forms. See Manuel DeLanda, "Uniformity And Variability", <http://www.t0.or.at/delanda/matterdl.htm> (accessed May 25, 2011).

¹⁴⁵ Classical thermodynamics is fixated on equilibrium with a teleological single optimum. By contrast, metastability of the far-from-equilibrium systems presupposes a pseudo-equilibrium (over time). It can change. For a superb textbook on dynamic systems theory see: Esther Thelen and Linda B. Smith, *A Dynamic Systems Approach to the Development of Cognition and Action* (Cambridge, MA: MIT Press, 1994).

¹⁴⁶ Ray Brassier, "Stellar Void or Cosmic Animal? Badiou and Deleuze on the Dice-Throw" in *Pli* (No. 10, 2000), p. 205. "For Deleuze's account of of virtual intensity as the 'inclusive disjunction' of difference in degree and difference in kind. [...] Although the expression

If we carry on merely relying on the 'agency of mapping' we will continue to see Bateson's five fingers.¹⁴⁷ Thinking needs to go in the opposite direction (counter-actualisation) towards the virtual and 'mapping of agency' (line of flight). The crucial question becomes "how can we unhook ourselves from the points of subjectification that secure us, nail us down to the dominant reality?"¹⁴⁸

065 **Asymmetry** Old habits die hard. For that reason the best way to approach visual perception is through non-visual senses. Charles Sanders Peirce proposes a thought experiment: a pitch black cave with no gravity where one relies upon one's own proprioception (joint sense), smell (nose) and temperature sensing (skin), the three orders of differentiation.¹⁴⁹ Note that these senses only operate locally through an interval of change with no reference to extrinsic space. In other words, each of them is, first of all, self referenced. Through navigation, one starts to distinguish zones in the gradient field and their thresholds (there are no clear-cut boundaries). What this means is that the movement starts to make the connection. Eventually one is able to identify invariants as the three series start to relate (proprioception, smell and temperature). Gradually we witness the 'concrecence' of extensive and therefore mappable space which is born out of topological intensive space of sensation. 'Smooth' space has turned into 'striated'. A space has emerged as a composition from an overlap of vague qualitative voluminousness, singular points and pure unextended interval. Massumi stresses that the striated Euclidian geometry in no way contradicts the topological one. They are enfolded. The 'nesting' of geometries according to their respective 'resilience' to transformation or level of 'generality' (Euclidian > projective > affine > topology) has been revealed by Klein's Erlangen Programme as explained above. The mutual dependence or reciprocal determination of the smooth and the striated is often overlooked by eager proponents of the Topological Turn in architecture. In the words of Peirce: "The evolution of forms

itself comes from *Anti-Oedipus* [...], the concept of inclusive disjunction is clearly present throughout *Difference and Repetition*, specifically in the form of what Deleuze calls there an 'asymmetrical synthesis' or 'pathos of distance'."

¹⁴⁷ James Corner, "The Agency of Mapping: Speculation, Critique and Invention" in *Mappings*, ed. Denis Cosgrove (London: Reaktion Books, 1999), pp. 231-252.

¹⁴⁸ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 160.

¹⁴⁹ Charles Sanders Peirce, *Reasoning and the Logic of Things, The Cambridge Conferences Lectures of 1898*, ed. Kenneth Laine Ketner (Harvard University Press, 1992), pp. 242-268, brought to our attention by Brian Massumi's superb interpretation at *Experimental Digital Arts* lecture "The Virtual" (EDA, 2000), http://design.ucla.edu/eda/archive/serve.php?stream=/mnt/video/design/video/041700_ma ssumi.rm (accessed June 25, 2008).

begins, or at any rate, has for an early stage of it, a vague potentiality; and that either is or is followed by a continuum of forms having a multitude of dimensions too great for the individual dimensions to be distinct. It must be by a contraction of the vagueness of that potentiality of everything in general but of nothing in particular that the world of forms comes about."¹⁵⁰ World is self-generating from potential. The primitives of the system are lived abstractions that have a nature of the qualitative continuum, and not bits of information. What is truly remarkable is that the order of movement and space is reversed. Points in space do not pre-exist their connection. The logic of sensation leads to the logic of relation. According to Massumi, movement does not happen *in* space. Rather, space is a derivative of movement:

This is a space that completely turns the relation between movement and positions on its head and changes the meaning of mapping. Movement no longer connects the preexisting positions on a set of a coordinate grid; it is *no longer subordinated to position*. Positions are derivative of movement and the grid is derivative of the emergence of position. So it is the movement of mapping that makes its own territory and territory is made entirely out of sensation; out of experience, out of qualities and differential experience: literal world of sensation (If you are born in the cave you wouldn't have a sense of inside/outside).¹⁵¹

The logic of coexistence (relation) is different from the logic of separation (discreteness). Massumi emphasises the stark contrast between Peirce's cave and the most famous cave parable - that of Plato. [Table xxviii] Curiously enough, in Plato's version the beholders are immobilised by chains and therefore compelled to rely on their vision alone, wondering whether (mediated) appearances might be but illusions. In the Peircean version there is no room for doubt since everything results from one's unmediated interaction (contemplative vs. participative space). In the short essay 'Factory', Vilém Flusser makes a similar assertion: "[...] *homo faber* becomes *sapiens sapiens* because he has realised that manufacturing means the same thing as learning – i.e. acquiring, producing and passing on information."¹⁵² The stillness of the beholder is the *sine qua non* of most optical illusions. No sensation is truly passive. Seeing is an *activity*.¹⁵³ This

¹⁵⁰ Charles S. Peirce, *Reasoning and the Logic of Things: the Cambridge Conferences Lectures of 1898*, ed. Kenneth Laine Ketner (Cambridge, MA: Harvard UP, 1992), p. 258.

¹⁵¹ Brian Massumi, "The Virtual" *Experimental Digital Arts* lecture (EDA, 2000), http://design.ucla.edu/eda/archive/serve.php?stream=/mnt/video/design/video/041700_massumi.rm (accessed June 25, 2008).

¹⁵² Vilém Flusser, *The Shape of Things, A Philosophy of Design* (London: Reaktion Books, 1999), p. 50.

¹⁵³ See: Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), p 352.

is not a minor issue. As we have seen in the previous chapter, it lies at the heart of a long-standing dispute between two great experts in the field of visual culture - Gibson and Gombrich - which effectively mirrors the cave parable.¹⁵⁴

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PLATO	PEIRCE
-IMMOBILISATION (chained down)	- Starts from pure MOVEMENT
- Forced DISTANCING	- PROXIMITY
- World MEDIATED (thinkable)	- ENCOUNTER (events)
- World populated	- Vague qualitative CONTINUUM
(by preexisting DISCRETE forms)	
- Space PRESTRUCTURED geom.	- Form, position, structure EMERGE (virtual continuum; something out of <i>almost</i> nothing; no theology)
	- PARTICIPATIVE (emergence precedes knowing; one does not critique, one does; creative: world out of movement)
- COGNITIVE relations (form seen in a distance)	- INVENTIVE (appearance emerged)
	- FREEDOM (chance, spontaneity)
- MORALISTIC	- IMMANENT (there are no higher planes, just another twist)
- ENSLAVEMENT	
- TRANSCENDENT (one reaches knowledge only by leaving the cave) and ascending to a higher level	
- DOUBT	- NO DOUBT (it all happens through one's movement; no distance as in visually structured world)

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xxviii **Two Cave Parables** (B. Massumi, 2000)

Furthermore, positing discreteness as a derivative of the continuum is even more fundamental with regard to the eternal issue of the primacy of permanence or change which is usually associated with the two opposed Presocratics, namely, Parmenides and Heraclitus. We ought to move beyond the simple opposition between the two which seems to imply a kind of symmetry. The issue is often wrongly presented as a matter of 'perspective', disregarding a crucial difference between extracting permanence from change and, conversely, inducing movement (to stasis). Architect Bernard Cache explains the conundrum by reference to the ancient Greek practice of optical correction whereby the artist/architect often deliberately 'distorted' the artefact in order that it appeared

¹⁵⁴ Gombrich/Gibson Dispute (on picture perception) is accessible from the Gombrich Archive. <http://gombrich.co.uk/gombrichgibson-dispute/> (accessed May 25, 2011).

'correct'. [Table xxix] Although Plato did recognise the validity of such corrections he would object to the result. In his eyes, to compensate for the foreshortening of the statue that is placed atop a column one would need to alter the proportions of the 'original' thus producing an (inferior) simulacrum.¹⁵⁵ According to Cache, this is because, in comparison with the mathematics of his time, Plato lacked the means to cogitate Ideas that, due to projective deformation, remain invariant:

In order to see something other than corruption in [optically corrected artefact], it would have been necessary for Plato to have projective invariants available to him, and in particular the relationship of relationships, that second-degree logos Spanish mathematicians rightly call *razón doble*, which expresses the number of that which is conserved in projective deformations.¹⁵⁶

	with correction	without correction
as perceived	HORIZONTAL	CONCAVE
as built	CONVEX	HORIZONTAL

xxix **Optical/Affective Correction:** *Entasis in Doric Temples.*

Cache gives a short genealogy of invariants: isometric > homothetic > projective > topological.¹⁵⁷ To put it simply, the respective invariants map various degrees of permanence despite the change or rather what kind of relationship gets preserved. Thus the primitive invariant is the relationship of identity, an *isometric* relationship of sameness. It is followed by the second variable invariant which articulates Greek rationality, *the homothetic* relationship. Prior to the invention of the numerical bi-ratio, Desargues and consequently Pascal created the first geometrical *projective* invariants: alignment and intersection. Finally in 1736, Euler produces the first *topological* invariants

¹⁵⁵ Erwin Panofsky, *Meaning in the Visual Arts* (Harmondsworth, Eng.: Penguin, 1970), p. 100. "[I]n contrast to this [the Egyptian sculptor], the Greek artist could not immediately apply the canon to his block, but must, from case to case, consult with the 'visual percept' that takes into account the organic flexibility of the body to be represented, the diversity of foreshortenings that present themselves to the artist's eye, and possibly, even the particular circumstances under which the finished work may be seen."

¹⁵⁶ See: Patrick Beaucé and Bernard Cache, "Objectile, Towards a Non-Standard Mode of Production" in *Time-based Architecture*, ed. Bernard Leupen, René Heijne, and Jasper Van Zwol (Rotterdam: 010, 2005), p. 121.

¹⁵⁷ See: Bernard Cache, "Geometries of Phantasma" in *Projectiles* (London: AA Publications, 2011), pp. 74-90.

which are preserved through surface deformations of any kind insofar as their continuity is maintained (doughnut and mug). Euler's famous formula, which established the invariability of the sum of vertices (v) and faces (f) reduced by the number of edges (e) for *any* polyhedron, constitutes the first topological invariant. This opened up an area of investigation which is far from exhausted and without which there would certainly be no concept of the Body without Organs (BwO) as we know it:

$$v-e+f=2^{158}$$

As we have seen, in 1872 the mathematician Félix Klein - better known for his bottle (3D version of Möbius strip) - grasped this movement of geometric reason which progresses by inventing increasingly sophisticated invariants as a means of manipulating ever greater variations.¹⁵⁹

Nevertheless, architectural thinking has always had a preference for proportional invariants. But a preference for simplicity, as Cache concludes, has less to do with the elimination of redundant features (legitimate use of simplicity arguments known as the Occam's razor) and more with familiarity. Jeffrey Kipnis concurs. If we trace the evolution of geometry from the descriptive via analytic and projective to topology we get a different notion of mathematical 'sameness.' Sameness is his synonym for invariance. At the opposite end of the spectrum from the familiar sameness of Euclidian geometry there lies the topological sameness in dynamic terms. Kipnis cannot resist an all-too-homological analogy: "Descriptive geometry, like [PoMo architect] Krier, sought to establish categories and to construct membership and equivalence tests in order to control difference."¹⁶⁰ While projective geometry gives rise to a dynamic rather than

¹⁵⁸ E.g. cube: $8-12+6=2$.

¹⁵⁹ Klein published an influential research program and a manifesto under the title of *Vergleichende Betrachtungen über neuere geometrische Forschungen*. His *Erlangen Program (Erlanger Programm)* proposed a new kind of solution to the problem of geometry. At the time, geometry contained a very large number of theorems and the emphasis was still on proving theorems from sets of axioms, on the model of Euclidian geometry that had prevailed for two millennia. What Klein suggested was innovative in two ways: (1) He proposed that group theory, a branch of mathematics that uses algebraic methods to abstract the idea of symmetry, was the most useful way of organising geometrical knowledge. (2) He made much more explicit the idea that each geometrical language had its own appropriate concepts so that, for example, projective geometry rightly talked about conic sections, and not about circles or angles, because those notions were not invariant under projective transformations.

¹⁶⁰ Jeffrey Kipnis, "Form's Second Coming" in *The State of Architecture at the Beginning of the 21st Century*, ed. Bernard Tschumi and Irene Cheng (New York: Montacelli Press, 2003), p. 59.

categorical theory of the same, with topology we can finally arrive at the following conclusion, as Kipnis indeed does, "Look at the faces and figures around you: all variations, no original theme." The architects who allegedly operate under this regime of different sameness are the usual suspects: Greg Lynn, Karl Chu, FOA, Asymptote, and so on. What we get from Kipnis' analysis is a graphic depiction of what Hays refers to as 'smoothing of architecture'.¹⁶¹ It brings to mind the canonical hand-drawn sketch by Cedric Price captioned *The City as an Egg* featuring boiled, fried and scrambled eggs depicting cities of Antiquity, nineteenth century and modern times, respectively.¹⁶² Kipnis is careful to draw the line between the good smooth and the bad semiotic-process architects such as Peter Eisenman "who in directing their work toward reading, must posit an initial primitive [which is] then transformed in steps so that the result stands like an indexical record of the transformation, that is, as a text; in other words, the train wreck is always read from the train." Conversely, the 'non-standard architects' avoid both formal typologies as well as train wrecks to "launch variation without origin."¹⁶³ Kipnis concludes how, despite common misunderstanding, this approach draws deeper impetus from the dynamic premises of mathematical topology than from the aesthetics of shapes. *But therein lies the rub.* By disengaging the aesthetic from the mathematical Kipnis effectively sides with those who relegate it to an autonomous 'realm' whose criteria of value are nonrational, amoral, and apolitical matters of beauty and style.¹⁶⁴ By contrast, we want to suggest that topologising needs to be extended to the *aesthetic* of shapes as well! The continuous variation is first and foremost an effect of movement. And it is not buildings that move, rather a variation also operates in the beholder. On this point Deleuze cites Spinoza: "variation of my force of existing, or [...] *vis existendi*, [...] or *potentia agendi*, the power of acting,

¹⁶¹ See: Michael K. Hays, "Ideologies of Media and the Architecture of Cities in Transition" in *Cities in Transition*, ed. Deborah Hauptmann (Rotterdam: 010 Publishers, 2001), pp. 262-273.

¹⁶² It also brings to mind Kevin Lynch's three 'normative' models: the City of Faith, the City as a Machine, and the Organic City from his *Good City Form*. Both of these groupings of three basically tell the story of three evolutionary stages of urban form: the compact pre-industrial city with a highly defined centre, the sprawling industrial city with its logic of production and consumption, and contemporary cities characterised by multiple centres acting as attractors (of people and goods). See: Kevin Lynch, *Good City Form* (Cambridge, MA: MIT, 1984). See also: Antony Vidler, "The b-b-b-Body: Block, Blob, Blur" in *The Body in Architecture* (Rotterdam: 010 Publishers, 2006), pp. 131-137.

¹⁶³ Jeffrey Kipnis, "Form's Second Coming" in *The State of Architecture at the Beginning of the 21st Century*, ed. Bernard Tschumi and Irene Cheng (New York: Montacelli Press, 2003), p. 59.

¹⁶⁴ Jane Bennett, "How is it, then, that we still remain barbarians?: Foucault, Schiller, and the Aestheticization of Ethics" in *Political Theory* (Vol. 24, No. 4, November 1996), p. 658.

and these variations are perpetual."¹⁶⁵ For Spinoza there is a continuous variation, as Deleuze explains, and this is what it means to exist. In this light, the Greek *entasis* for example - the application of a convex curve to a surface for aesthetic purposes - is not an optical but rather an *affective* correction.¹⁶⁶ The same could be said of Michelangelo's Campidoglio whose trapezoidal shape 'draws the city closer' to the square, as it were.¹⁶⁷ This would be inconceivable to their Egyptian and medieval predecessors alike, albeit for different reasons:

The Egyptian theory of proportions, identifying the 'technical' with the 'objective' dimensions, had been able to combine the characteristics of anthropometry with those of a system of construction; the Greek theory of proportions, abolishing this identity, had been forced to renounce the ambition to determine the 'technical' dimensions; the medieval system renounced the ambition to determine the 'objective' ones.¹⁶⁸

Panofsky thus characterises the Egyptian method as *constructional*, the medieval as *schematic* and the classical as *anthropometric*. We would like to suggest that the leeway between the 'technical' and 'objective' goes beyond mere anthropometrics and instead points to a *dynamic* relationship.¹⁶⁹ The leeway between the optical (phenomenal) and affective (virtual) seems also to have lost its currency for us moderns with some notable exceptions.¹⁷⁰ The widely

¹⁶⁵ See: Gilles Deleuze, *Cours Vincennes: "Deleuze/Spinoza"* (January 24, 1978), <http://www.webdeleuze.com/php/texte.php?cle=14&groupe=Spinoza&langue=2> (accessed May 25, 2011).

¹⁶⁶ A slight convexity or swelling, as in the shaft of a column, intended to compensate for the illusion of concavity resulting from straight sides. Latin, from Greek, *tension*, from *enteinein*, *to stretch tight*.

¹⁶⁷ The existing design of the Piazza del Campidoglio and the surrounding palazzi was created by Michelangelo Buonarroti in 1536 - 1546.

¹⁶⁸ Erwin Panofsky, *Meaning in the Visual Arts* (Harmondsworth, Eng.: Penguin, 1970), p. 102.

¹⁶⁹ "The fact that a fundamental ignorance of Classical values does indeed prevail today can be demonstrated by reference to a number of issues. The most crucial of these is the lamentable separation of the roles of 'art' and 'function' as if they were in opposition to each other, whereas the very essence of Classical thought insisted on their fusion." See: Colin St. John Wilson, "Classical Theory and the Aesthetic Fallacy" in *The Other Tradition of Modern Architecture* (London: Academy Editions, 1995), p. 39.

¹⁷⁰ "[I]f a simple liquid solution can harden into crystal or glass, ice or snowflake depending upon the multiplicities of nonlinearities shaping the solidification process, human societies – which have a larger range of attractor types – have far more leeway in how they develop stable configurations [...] there is much to be learned from analyzing in detail the actual processes of stratification and destratification that have occurred in different societies at different times [...]" See: Manuel DeLanda, "Nonorganic Life" in *Zone 6: Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Urzone, 1992), p. 154.

accepted change of terminology from the Greek mereological 'proportion' to the modern autonomous 'fraction' is indicative. Nonetheless, the dynamic of the assemblage conceived as *multiplicity* cannot exclude the relation of sensory appreciation (for that would be akin to the anatomy of half a chicken). How could it? If it did, we would operate under a veiled modernist (subject/object) framework, despite (or because of) all the rhetoric. The plane of composition is not to be conflated with the plane of reference, or - *cum grano salis* - production (object) is not to be conflated with its reception (effect). It is even conceivable that the 'absolute' topologising would shed different light on what appears to be the most rigid of geometries (phenomenologically). As a matter of fact we shall consider such a case below, *Centre Pompidou*, worthy evidence in favour of Kipnis' desired speculative theory of the same.

In the meantime let us propose an alternative 'smoothing cascade' which depends on the degree to which the construction (as a Part) contributes to the Whole: (1) Construction is ignored as irrelevant, (2) Construction is not emphasised, (3) Building is the construction, (4) Construction is the building, (5) Construction is central and to be expressed as a style.¹⁷¹ We shall tentatively presume that the gradual increase in the degree of performative contribution to the Whole is inevitably achieved at the expense of some other criteria. To put it in naïve terms, the less the criteria stem from the 'objective' consideration (construction) the more they become 'subjective' (aesthetic) with a caveat that we, of course, vehemently reject any such clear-cut oppositions. We begin with irrelevant construction (1). These are buildings which are designed as graphic or sculptural compositions that often reveal little of the actual construction. In such architecture the construction itself need not emphasise the expression and the designer is more concerned with the image than with tectonics. The prime *aesthetic figure* of this approach is (the latter-day) Frank Gehry. *In What is Philosophy* (1991) Deleuze and Guattari define an aesthetic figure as sensory becoming or otherness caught in a matter of expression. Architecture, in this sense, does not actualise the virtual event but incorporates it: "it gives it a body, a life, a universe."¹⁷²

The second embodiment is the one where the construction is not emphasised (2). The construction is undeniably the supporting structure of any building which may not always be visible. However, thanks to the spatial arrangement it is possible to sense the presence of the construction without being directly confronted by it. The construction can also be less pronounced when it is

¹⁷¹ The 'construction spectrum' based on the lecture by P.M.C. Scheers, "Structure, Supporting Structure and Dimensioning" at TU Delft (2002).

¹⁷² See: Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), pp. 63, 177.

part of architecture rather than proclaiming itself as a construction. An anonymous family house will suffice as an example of a construction that is not emphasised, a default position of sorts.

When the building is small in scale and built of natural materials, the actual construction may not draw attention to itself. In this case other material qualities dominate: the method of assembly, the sizes and dimensions, the functions of the spaces, the way light enters the building, the details, the colours, etc. This applies to the building that is the construction (3). An aesthetic figure of this 'category' is (early) Zaha Hadid.

The industrial revolution helped people to discover and make new materials. Some designers choose to emphasise new frequently large-scale materials in such a way that the construction is not only dominant but is also the essential aspect of the building. Not only does the construction make the building possible but it is the building itself (4). Functionalism in general and High-Tech in particular are two twentieth-century styles that emphasise the construction in this way. The aesthetic figures being the two British Sirs: Richard Rogers and Norman Foster.

At the beginning of the twenty-first century there emerged a style which drew inspiration from nature and emphasised the inseparability of material from structure. Architects who favour this style examine natural dynamic systems, material behaviour and adaptation for their implementation in architecture and engineering. The style became known as Biomimetic Architecture. The aesthetic figure of (5) is Greg Lynn.¹⁷³ Its most prominent predecessor, however, remains the Catalan Antoni Gaudí.¹⁷⁴ With regard to the latest mainly *digitally*-driven addition to the spectrum, we subscribe to Peter Sloterdijk's view on its (as yet) unfulfilled promise:

Of course biomorphism in architecture is a remarkable thing. But it's mainly an expression of the fact that modern mathematics has caught up with organic forms. So we should avoid drawing false conclusions from this phenomenon. [...]

¹⁷³ "Animation is a term that differs from [...] motion. While motion implies movement and action, animation implies the evolution of a form and its shaping forces; it suggests animalism, growth, actuation, vitality and virtuality [where] the term virtual here refers to an abstract scheme that has the possibility of becoming actualized, often in a variety of possible configurations." See: Greg Lynn, *Animate Form* (New York: Princeton Architectural Press, 1999), p. 99.

¹⁷⁴ Gaudí was calculating the exact curves of the Sagrada Familia in Barcelona by hanging small sandbags from chains. In his studies, the floor plan of the church was attached to the ceiling of his studio. By suspending chains from that floor plan and interconnecting them he was not just calculating the form of their curves, but also a form that could be implemented in masonry (compressive and not tensile stress). This makes Gaudí the first digital form-finding rather than form-making architect.

From the perspective of a coming politics of nature, architectural biomorphism should be interpreted as a symbol of the fact that technique has attained the necessary *savoir-faire* to declare its responsibility over organic forms.¹⁷⁵

It bears mentioning that, according to the prominent advocate of biomorphism Neil Leach, we are entering a new phase as the application of parametric tools has begun to shift up a scale to the level of the urban.¹⁷⁶ In any case, the spacing of this 'constructionist' spectrum (1-5) is meant to challenge Hays' excessively phenomenological 'smoothing of architecture' referred to above as the fallacy of isomorphism of the first order, given that the *polar* opposites of (1) and (5) happen to bear the greatest (formal) resemblance. In other words, the logic behind such a classification is still one of typologisation rather than topologisation. It suffers from what Foucault identified as *phenomenalisation*.¹⁷⁷ Cuvier's legacy seems to have evaporated.

If we move to the level of structure it is possible to lay a 'fitness landscape' with four basins of attraction or four typical mechanisms. We can refer to them as species which deal with acting forces in terms of their redirection: (a) Form active structure systems, (b) Vector active structure systems, (c) Section active structure systems and (d) surface active structure systems.¹⁷⁸ Form active structures, such as the dome, are systems in single stress condition bearing compressive (or tensile) forces. Vector active structures mark systems in coactive stress condition: compressive and tensile forces. The most representative example of this species is the truss. Section active systems tame sectional forces (beams) via bending stress condition. Finally, surface active structures are

¹⁷⁵ Peter Sloterdijk, "Foreword to the Theory of Spheres" in *Cosmograms*, ed. Melik Ohanian and Jean-Christophe Royoux (New York: Lukas & Sternberg, 2005), p. 238.

¹⁷⁶ For a critique of the mechanistic fallacy at an urban level see: Arie Graafland, "An Afterthought on Urban Design" in *Urban Asymmetries: Studies and projects on Neoliberal Urbanisation*, ed. Tahl Kaminer, Miguel Robles-Durán and Heidi Sohn (Rotterdam: 010 Publishers, 2011), pp. 274-285. "[...] 'ground' is in perception and community."

¹⁷⁷ We introduce the term in Chapter One. For a recent example of phenomenalisation see: Alejandro Zaera Polo, "Politics of the Envelope: A Political Critique of Materialism" in *Archinet* (Volume 17, 2008), pp. 76-105. The four envelope types: flat horizontal ($X \approx Y > Z$), spherical ($X \approx Y \approx Z$), flat-vertical ($X \approx Z > Y$), and vertical ($X > Y \approx Z$). For a similar critique see: Douglas Spencer, "Architectural Deleuzism: Neoliberal space, control and the 'univer-city'" in *Radical Philosophy* (No. 168, July/August 2011), pp. 9-21. "Treated as a means to an end, affect becomes reified and is turned to a use opposite to that suggested by Deleuze and Guattari: rather than a path towards the deterritorialization of subject positions imposed by a molar order, affect serves to reterritorialize the subject within an environment governed by neoliberal imperatives."

¹⁷⁸ The 'structure spectrum' based on Heino Engel, *Structure Systems* (Ostfildern-Ruit: Hatje Cantz, 1997), p. 20.

systems in surface stress condition. The representative of the species is the tent with its membrane forces.

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CONSTRUCTION (C)	STRUCTURATION	
(1) C Irrelevant	(a) Form Active	(naturalising)
(2) C Not Emphasised	<i>performative</i>	
	(b) Vector Active	(abstracting)
(3) Building = C	(c) Section Active	(substantial)
(4) C = Building	<i>aesthetic</i>	
	(d) Surface Active	(ephemeral)
(5) C = Style		
+++++		

xxx **Construction Spectrum and Structuration State Space**

It is perfectly conceivable that each of the *structures* (a)-(d) can be incarnated in any of the *constructions* (1)-(5) (save perhaps for the 5b on 'ideological' grounds). [Table xxx] There are simply no grounds for judging *any* of the above as superior, if not aesthetically or in terms of their affective power. Once again we turn to the basic Spinozian definition of affect, which is an 'ability to affect or be affected'. In the words of Massumi:

Right off the bat, this cuts transversally across a persistent division, probably the most persistent division. Because the ability to affect and the ability to be affected are two facets of the same event. One face is turned towards what you might be tempted to isolate as an object, the other towards what you might isolate as a subject. Here, they are two sides of the same coin. [...] No need to detour through well-rehearsed questions of philosophical foundations in order to cobble together a unity. You start in the middle, as Deleuze always taught, with the dynamic unity of an event.¹⁷⁹

This tectonic digression is also meant to illustrate the urgency of the Deluzian call for any-space-whatever. Our plea for topologising has no other purpose but to adequately conceptualise the *event: it is not about what happened, but what is going on in what happened* - the untimely.¹⁸⁰ Foucault lists three such major

¹⁷⁹ See: Brian Massumi, "Of Microperception and Micropolitics" in *Inflexions: Micropolitics: Exploring Ethico-Aesthetics* (No. 3. 2009), p. 1.

¹⁸⁰ See: Gilles Deleuze, "Michel Foucault's Main Concepts" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 241. "The Thinking

attempts in the recent past: neopositivism, phenomenology and philosophy of history. Needless to say, they all failed miserably:

Neopositivism failed to grasp the distinctive level of the event; because of its logical error, the confusion of an event with a state of things [...] Phenomenology, on the other hand, reoriented the event with respect to meaning [...] from this evolves a logic of signification, a grammar of the first person, and a metaphysics of consciousness. As for the philosophy of history, it encloses the event in a cyclical pattern of time. Its error is grammatical; it treats the present as framed by the past and future. [...] Thus, three philosophies that fail to grasp the event. The first, on the pretext that nothing can be said about those things which lie 'outside' the world, rejects the pure surface of the event and attempts to enclose it forcibly [...] The second, on the pretext that signification only exists for consciousness, places the event outside and beforehand, or inside and after [...] The third, on the pretext that events can only exist in time.¹⁸¹

It needs to be noted that Deleuze and Guattari do not recognise abstraction in the 'cascading' of invariants in the sense of the principle of parsimony or finding the ever bigger common denominator. In this they resist the 'geometric' abstraction of the art historian Wilhelm Worringer, only to embrace "A line of variable direction that describes no contour and delimits no form."¹⁸² We shall tackle this proper alternative to abstraction (and empathy) in the last chapter. The nesting - with different *orders* of abstraction (relationship of relationship) - offers the basis for the (post-human) leap of imagination; it is a way to perceive the relation exterior to its terms or the realm of the virtual. Unlike a transcendent heaven inhabited by pure beings without becoming (unchanging essences or laws with a permanent identity), the virtual could be said to be populated exclusively by pure becomings without being.¹⁸³ This, of course, is an asymptotic (not attainable) condition. In other words, once we arrive at this ultimate level of pure relationality through counter-actualisation, we are not just rid of the contingent

has an essential relation to history, but it is no more historical than it is eternal. It is closer to what Nietzsche calls the Untimely: to think the past *against* the present – which would be nothing more than a common place, pure nostalgia, some kind of return, if he did not immediately add: '*in favor*, I hope, of a time to come'." [emphases in the original]

¹⁸¹ Michel Foucault, "Theatrum Philosophicum" in *Critique*, (No. 282, 1970), pp. 885-908.

¹⁸² See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 499. "This vital force specific to the Abstraction is what draws smooth space. The abstract line is the affect of smooth space, just as organic representation was the feeling presiding over striated space. The haptic-optical, near-distant distinctions must be subordinated to the distinction between the abstract line and the organic line; they must find their principle in a general confrontation of spaces." Cf. Wilhelm Worringer, *Abstraction and Empathy* (Cleveland: Meridian, [1907] 1967).

¹⁸³ The antidote to the pure becoming is in the actual body.

actuality (trains and train wrecks) but can begin to ponder the alternative processes of individuation, in terms of pre-actualisation. Counter-actualisation, in fact, always complements pre-actualisation, as DeLanda explains. While the former extracts multiplicities from actually occurring events, the latter takes these and allows them to progressively unfold and differentiate (again, without fully actualising them). "The operation of pre-actualisation would give multiplicities not only a certain *autonomy* from the intensive processes acting on their real causes, it would also endow these impassive and sterile effects with whatever morphogenetic power they enjoy."¹⁸⁴

Most importantly for our declared de-fatalising purposes, granting consistency to virtual multiplicities (as well-posed problems) endows them in turn with a degree of autonomy from their particular solutions. In stark contrast to positivist sciences, the focus is on the singularities (invariants of invariants) rather than the forces themselves. But to abandon the conventional axiomatic approach for the problematic, one needs to dare to leave behind the familiar and operate at an extra-propositional and sub-representative level. After all, laws are not necessary. They are facts and facts are contingent as they can change without an apparent reason. Fortunately, there are ways of extracting information from a complex topological shape in order to display it in a comprehensible way, courtesy of Poincaré. We have already referred to this as the 'N-1 move'. DeLanda explains how the 'Poincaré section' works,

[A]n actual system may be 'sampled' or 'sliced through' to obtain its full quasi-causal component, the entire set of attractors defining each flow pattern and the bifurcations which mediate between patterns. In other words, a Deleuzian section would not consist in a mere reduction of the original dimensionality, but in an elimination of every detail of the actual event except its topological invariants: the distribution of its singularities, as well as the full dimensionality of its state space.¹⁸⁵

Consider the rabbit/fox (prey/predator) mutual dependence. It cannot be grasped by isolating too narrow a sample (in terms of the temporal/spatial scale) for that would be merely accidental and, as such, over-determining. 'Zooming-out' to the all-encompassing level would result in the opposite: under-determination which

¹⁸⁴ See: Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 74.

¹⁸⁵ See: Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 131. Cf. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 251. "It is only in appearance that a plane of this kind 'reduces' the number of dimensions; for it gathers in all the dimensions to the extent that *flat multiplicities* - which nonetheless have an *increasing or decreasing number of dimensions* - are inscribed upon it." [emphases in the original]

would miss the specificity of the assemblage. By contrast, the Poincaré section reveals the long term *tendency* of the coupling or a way of determining a problem without reference to potential solutions. The 'truth' is neither a matter of legality as in Kant, nor intersubjectivity as in Husserl, nor a matter of interpretation as with hermeneutics. In contrast to the immanent patterns of becoming, all of the above are hylomorphic as they import the guiding principle from the outside. The key is to become isomorphic with the quasi-causal operator which ensures the irreducibility of problems to their solutions. It is only in this way that one can identify specific tendencies and capacities, or what Deleuze calls singularities and affects. The machinic phylum endows all of the immanent becomings. Thus, when ergonomists were convinced that they were confining themselves to a purely technological approach, according to Guattari, what they were effectively doing was to "raise the problems of power and oppression, of revolution and desire, with an involuntary vigor that is infinitely greater than in the adaptive approaches."¹⁸⁶

3.3 Real Virtuality

3.3.1 Stradivarius Syndrome

066 **Knowing How vs. Knowing That** Pictorial representation is an extension of the elaboration of perception, and not the other way around. Action and perception form a continuum of experience. This is especially relevant for architecture, given that its basic medium is *ipso facto* the 'field of experience'. Implications for the discipline are enormous and still highly unappreciated, as we are just beginning to feel the loosening of the linguistic grip. Ironically, even social sciences have been more eager to turn towards the realist and materialist paradigm. If shaking off the 'linguisticity of experience' and losing the scare-quotes above the word 'real' was difficult enough, tackling the nature of (graphic) representation will prove even more difficult. This means that the current reliance on mapping could be fatally overstated. Gilbert Ryle distinguishes between propositional (symbolic and discrete) knowledge of *that* and (performative and continuous) sensori-motor knowledge of *how*.¹⁸⁷ This strongly resonates with

¹⁸⁶ See: Félix Guattari, "Balance-Sheet For 'Desiring-Machines'" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 91-93. "Ergonomics comes close to this point of view when it sets the general problem, no longer in terms of adaptation or substitution - the adaptation of man to the machine, and of the machine to man - but in terms of recurrent communication within systems made up of men and machines."

¹⁸⁷ For the difference between declarative knowledge of 'of' and the procedural knowledge of 'how' see: Gilbert Ryle, *The Concept of Mind* (London: Routledge, [1949] 2009), pp. 25-61.

Foucault's distinction between *Savoir* (know-how) and *Connaissance* (knowledge).¹⁸⁸ As early as 1960s, the philosopher Hubert Dreyfus opposed the hypothesis of the physical symbol system, arguing that intelligent behaviour cannot be completely captured by symbolic descriptions. As an alternative, Dreyfus advocated a view of intelligence that stressed the need for an ambulant body capable of direct interaction with tangible objects. Once reviled by advocates of AI, Dreyfus is now regarded as a champion of the situated approach. In his seminal *What Computers Can't Do* he recounts how his intellectual adversary Marvin Minsky embarked on the same misguided 'infinite task' that eventually overwhelmed Husserl: "Just constructing a knowledge base is a major intellectual research problem. [...] We still know far too little about the contents and structure of common-sense knowledge. A 'minimal' common-sense system must 'know' something about cause-effect, time, purpose, locality, process, and types of knowledge [...] We need a serious epistemological research effort in this area."¹⁸⁹ Dreyfus finds Minsky's naïveté and faith astonishing: "Philosophers from Plato to Husserl, who uncovered all these problems and more, have carried on serious epistemological research in this area for two thousand years without notable success."¹⁹⁰ As the psychologist Robert Shaw points out, even assuming that rules for simulating the awareness of real-world contexts were possible, the list of *ad hoc* provisos required to enable a programmer to envisage all situations and their conditions is a task that is impossible to fulfil operationally. The fallacy committed by thinking that such unrealistic tasks might be carried out is known as Tristram Shandy's Paradox - the fallacy of trying to describe in words (or formulae or algorithms) that which is experienced in real time in real-world situations.¹⁹¹ All the uniquely human capacities provide a 'richness' or a

The introduction to the 2000 edition was written by Ryle's student Dan Dennett. See also: Donald A. Norman *The Design of Everyday Things* (New York: Doubleday, 1990), p. 57.

¹⁸⁸ "By *connaissance* I mean the relation of the subject to the object and the formal rules that govern it. *Savoir* refers to the conditions that are necessary in a particular period for this. [...] Instead of exploring the consciousness/knowledge (*connaissance*) / science axis (which cannot escape subjectivity), archaeology explores the discursive [sic] practice/knowledge (*savoir*) / science axis." Michel Foucault, *The Archaeology of Knowledge; The Discourse on Language* (New York: Pantheon, [1969] 1982), pp. 16, 201-202.

¹⁸⁹ Hubert Dreyfus, "Introduction to the Revised Edition" in *What Computers Can't Do* (Cambridge, Massachusetts and London, England: The MIT Press, [1972] 1992), p. 36.

¹⁹⁰ Hubert Dreyfus, "Introduction to the Revised Edition" in *What Computers Can't Do* (Cambridge, Massachusetts and London, England: The MIT Press, [1972] 1992), p. 36.

¹⁹¹ *The Life and Opinions of Tristram Shandy, Gentleman* is a novel by Laurence Sterne. It was published in nine volumes, the first two appearing in 1759, and seven others following over the next 10 years. As its title suggests, the book is ostensibly Tristram's narration of his life story. But it is one of the central jokes of the novel that he cannot explain anything simply, that he must make explanatory diversions to add context and colour to his tale, to

'thickness' to our way of being-in-the-world and thus seem to play an essential role in situatedness, which in turn underlies all intelligent behaviour. [Table xxxi] For example, one cannot learn to swim (or drive or play the violin) by reading a manual.¹⁹² It requires entering into an assemblage with water and trying out different ways of propulsion through one's own idiosyncratic bodily movement and eventually acquiring a unique style. A similar distinction is made by Walter Benjamin in his review of Franz Hessel's "On Foot in Berlin" [*Spazieren in Berlin*], between studying [*studieren*] and learning [*lernen*]: "A whole world separates these words, " he argues, "Anyone can study, but learning is something that you can only do if you are there for the duration."¹⁹³

+++++		
PASSIVE	PASSIVE	ACTIVE
Organic Syntheses	Syntheses	Syntheses
METABOLISM	PERCEPTION	THOUGHT
+++++		

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Machinic Phylum: *When one refers the tool to man, in accordance with the traditional schema, one deprives oneself of any possibility of understanding how man and the tool become or already are distinct components of a machine in relation to an actual machinic agency. And we believe moreover that there are always machines that precede tools, always phyla that determine at a given moment which tools, which men will enter as machine components in the social system being considered.*¹⁹⁴ (F. Guattari, 1995)

Where does this leave us with the discoveries of Kevin Lynch's 'cognitive mapping'?¹⁹⁵ Lynch suggests that urban alienation is directly proportional to the

the extent that we do not even reach Tristram's own birth until Volume III. See: Robert Shaw, "The Agent-Environment Interface: Simon's Indirect or Gibson's Direct Coupling?" *Ecological Psychology* (Vol. 15(1), 2003), pp. 37–106.

¹⁹² This - brain in a vat - fallacy has captured popular imagination. In the film *Matrix* by the Wachowski brothers (1999) one of the protagonists learns how to fly a helicopter with the help of a cell phone external connection and a CD. Although learning takes place in a simulacrum it is inconceivable that one could download sensori-motor experience.

¹⁹³ Published as "*Die Wiederkehr des Flaneurs*" and translated as "The Return of the *Flâneur*" in *Selected Writings* Volume II (Cambridge: Harvard, 1999), pp. 262-267.

¹⁹⁴ See: Félix Guattari, "Balance-Sheet For 'Desiring-Machines'" in *Chaosophy*, ed. Sylvère Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 93. "Desiring-machines are neither imaginary projections in the form of phantasies, nor real projections in the form of tools. The whole system of projections derives from machines, and not the reverse."

¹⁹⁵ Strong ocularcentric reduction of experience is evident in the very title: Kevin Lynch, *The Image of the City* (Cambridge, Massachusetts: The MIT Press, 1960). The elements of the city image, according to Lynch are: *paths, edges, districts, nodes* and *landmarks*. Each of these formal elements constitutes a layer, a separate structure of the city. Lynch's image of the city is based on symbol-manipulating procedures of cognitive mapping. See:

mental unmappability of local cityscapes. Fredric Jameson picks up on Lynch's conception of "dialectic between the here and now of immediate perception and the imaginative or imaginary sense of the city as an absent totality" to propose his version of 'cognitive mapping'.¹⁹⁶ However, taking a drawn map as an adequate account of what an individual knows is an instance of committing the psychologist fallacy, as identified by William James: "Maps and models are products of what individuals know rather than what is known as such. And as products of knowing process, they may only partially reflect what is known."¹⁹⁷ In a recent interview Scott Lash highlights the problem of logocentrism:

I think we make sense of the world through some sorts of mapping, and through some sorts of mapping on, I suppose, something like Deleuze's plane of consistency or whatever you want to call it. It's a mapping inside the real. It's a mapping in which we are mobile. I don't think it's primarily cognitive mapping at all. Cognitive mapping - Fredric Jameson had the concept in his book on post-modernism - came from Kevin Lynch in *The Image of the City*. Kevin Lynch was in the first generation of cybernetics, with Wiener, Weaver and Co. The first generation had very much a 'Oh, I've got a bird's eye view' type of approach, and 'we're going to organise your system'. They were into an equilibrated control / command / communication / intelligence kind of approach. Whereas, the second generation of cybernetics and non-linear systems are more like Maturana and Varela: the mapping is autopoietic, in the world, it's no longer outside of us, and it's not cognitive.¹⁹⁸

In his book *The Craftsman* (2008) the sociologist (and musician) Richard Sennett 'blames' the famous violinmaker Antonio Stradivari for failing to transmit knowledge to his disciples. Again, the problem lies in the failure to distinguish

Christine M. Boyer, *CyberCities: visual perception in the age of electronic communication* (New York: Princeton Architectural Press, 1996), pp. 140-141.

¹⁹⁶ Jameson takes Lynch's conception of city experience to be a spatial analogue of Althusser's formulation of ideology itself as "the Imaginary representation of the subject's relationship to his or her Real condition of existence." See: Fredric Jameson, "Cognitive Mapping" in *Marxism and the Interpretation of Culture*, ed. C. Nelson and L. Grossberg (University of Illinois Press, 1990), pp. 347-360.

¹⁹⁷ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001), p. 190.

¹⁹⁸ Scott Lash, "Information Flows and Involuntary Memory" in *Information is Alive: Art and Theory on Archiving and Retrieving Data*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Organisatie/EU European Culture 2000 Program, 2003), pp. 201-202. See also: Christine M. Boyer, "The Body in the City: A discourse on cyberscience" in *The Body in Architecture* (Rotterdam: 010 Publishers, 2006), p. 27. "[T]here have been two different cybernetic models that have influenced the images of both the city and the body. In spite of Jean-Paul Sartre's admonition in 1940, that 'the inhuman is merely ... the mechanical', cyberscience has dissolved the body into computer bits and mechanical processes."

between the encyclopaedic factual (propositional) and the knowing-how-to-make-a-violin knowledge.¹⁹⁹ Curiously, there is a similar naïveté with a substantial part of the AI community who refuse to reject the 'input-output' (i/o) view of cognition in favour of the embodied, embedded, extended, enactive and affective (4EA) approach to the mind.²⁰⁰ As Bateson maintained, mind is greater than the brain.²⁰¹

067 **Sensory-Motoric** We have long been witnessing the most unlikely alliance between Cartesians and (most of) Cybernetics: Hardware and Software as Body and Mind. Hubert Dreyfus argues in his polemic with Marvin Minsky that, had the AI community ever read Maurice Merleau-Ponty, they would not have wasted as much time on the disembodied (symbolic) approach. In the subsequent reprint, his masterpiece *What Computers Can't Do* was renamed *What Computers Still Can't Do*.²⁰² According to Dreyfus, the fallacy rests on both epistemological and ontological assumptions. The epistemological assumption is that all activity (by animate or inanimate objects) can be formalised (mathematically) in the form of predictive rules or laws. The ontological assumption is that reality consists entirely of a set of mutually independent atomic (indivisible) facts. It is because of the epistemological assumption that experts in the (symbolic) AI field argue that intelligence is the same as formal rule-following. The ontological assumption leads them to argue that human knowledge consists entirely of internal representations of reality. Sadly, placing images in consciousness and movement in space happens to be the predominant *modus operandi* of architects. We have yet to distinguish between *hodological* and Newtonian isotropic space.²⁰³ Physics may be value-free, but ecology is

¹⁹⁹ Richard Sennett, *The Craftsman* (London: Penguin Books, 2008), pp. 75-79. One cannot but be equally wary of the otherwise worthwhile (post-theoretical) theory of Michael Speaks in *Design Intelligence* whereby knowledge is somehow devoid of ideology.

²⁰⁰ The key is to expand the explanatory framework. For more information on ways of thinking about cognition that depart from standard cognitivist models see John Protevi's 4EA blog http://protevi.blogspot.com/4ea_cognition/ (accessed May 25, 2011).

²⁰¹ The same cleavage seems to be at the core of Danny Boyle's *Slumdog Millionaire*, also from 2008, where the main protagonist unexpectedly wins a popular quiz-show by knowing *how* rather than knowing *that* (the answer is a, b, c or d).

²⁰² Hubert Dreyfus, *What Computers Can't Do* (Cambridge, Massachusetts: The MIT Press, 1972), *What Computers Still Can't Do* (1992).

²⁰³ In the topological psychology of the psychologist Kurt Lewin (1890–1947), it is a special form of topological geometry in which paths and vectors are defined psychologically, the distance between one hodological region and another being not the shortest path but the path of least effort given the attractive and repulsive valences of the regions making up the space. The term is derived from the Greek word 'hodos', path, way. More generally, in contrast to the mathematical concept of space as presented on maps, plans, and so on,

not.²⁰⁴ Luckily, at least for cognitive sciences, symbolic computing is being gradually superseded by the more promising connectionist approach where 'training' (and hence embodiment) plays a major role.²⁰⁵ In the connectionist model, as well as the dynamic systems theory of cognition, knowledge is not about permanent rules or conceptual structures: "Instead, knowledge is assembled in real time, in context from units that do not in and of themselves look like or contain the resultant knowledge."²⁰⁶ There is an uncanny resemblance between two public disputes on this score: that of Gibson vs. Gombrich and Dreyfus vs. Minsky. Strictly speaking, they are not disputes at all. They are perfect illustrations of Thomas Kuhn's 'paradigm shift' where the proponents operate in different 'contrast spaces' with a different logic, as in the example provided by DeLanda:

Priest: Why did you rob the bank?

Prisoner: There was more money there than in a post office.²⁰⁷

The true ambition is always measured at the level of the (virtual) problem rather than the (actual) solution. As Voltaire would have it, "Judge a man by his questions rather than by his answers." It is plausible that Whitehead is the *éminence grise* of Deleuze's *Fold: Leibniz and The Baroque* (1988). His replacement of the subject by the 'superject' (as well as 'prehension' for relational understanding) resonates with Hume's theory of subjectification. In opposition to the psychologisms that start from an entity of 'myself', Hume sees the subject as 'coagulation' in the field of sensation (Whitehead's 'conrescence', Peircean

'hodological' space is based on the factual topological, physical, social, and psychological conditions.

²⁰⁴ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 137-140.

²⁰⁵ Connectionism is an approach in the fields of artificial intelligence, cognitive psychology, cognitive science, neuroscience and philosophy of mind, which models mental or behavioural phenomena as the emergent processes of interconnected networks of simple units.

²⁰⁶ See: Esther Thelen and Linda B. Smith, *A Dynamic Systems Approach to the Development of Cognition and Action* (Cambridge, MA: MIT Press, 1994), p. 39. "[B]oth view knowledge as a pattern of activity in time as opposed to a structure, an object-like entity."

²⁰⁷ Manuel DeLanda, *Intensive Science and Virtual Topology* (London and New York: Continuum, 2002), pp. 129-130. In this regard compare the *contrasting* analyses of Mies' Barcelona Pavilion (1929) as fragmentation in Hays and unity in Evans. See: Michael Hays, "Critical Architecture; Between Culture and Form" (1984); Robin Evans, "Mies van der Rohe's Paradoxical Symmetries" (1990).

'thirdness', Deleuzian 'folding').²⁰⁸ The subject of an experience emerges from a field of conditions which are not that subject yet, explains Massumi, where the subject is just coming into itself: "Before the subject, there's an in-mixing, a field of budding relation too crowded and heterogeneous to call intersubjective. It is not at a level where things have settled into categories like subject and object. It's the level of what William James called pure experience. [...] It is the coming together of the world, for experience, in a here-and-now prior to any possibility of assigning categories like subject or object. That affective region we were talking about is not in-between in the intersubjective sense. And it's not intentional in the sense of already carrying a subject-object polarity."²⁰⁹ Hume foregrounds habitual association as the basic (sensori-motor) mechanism.²¹⁰ In the eyes of his predecessor Félix Ravaisson, habit becomes the "blind tendency that derives from passion as much as from action". It is built upon the Leibnizian principle of continuity. Catherine Malabou explains:

Habit obeys a law of evolution and of life in general. The reciprocity between suffering and creation, the mutual reversibility of passivity and activity, marks a double interval, which habit fills by creating tendencies in the milieu. This interval is first of all that separating the two opposed limits of the hierarchy of organized beings. The lower limit is 'necessity - Destiny, as it might be said, but in the spontaneity of Nature'. The higher limit is 'the Freedom of the understanding'. Habit will appear as a unifying trait between these two limits.²¹¹

The mind is finally brought to nature, as perceiving is neither representing nor presenting; it is enacting perceptual content. Memory is seen as the low intensity 'replica' of raw sensation. For Henri Bergson this kind of memory is *content*

²⁰⁸ See: Gilles Deleuze, "Response to a Question on the Subject" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 349.

"Hume marked a decisive moment in the philosophy of the subject because he referred to acts that went beyond the given (what happens when I say 'always' or 'necessary')." ²⁰⁹ See: Brian Massumi, "Of Microperception and Micropolitics" in *Inflexions: Micropolitics: Exploring Ethico-Aesthetics* (No. 3. 2009), p. 4.

²¹⁰ See: Gilles Deleuze, "Preface for the American Edition of *Empiricism and Subjectivity*" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 365. "Who are we? We are habits, nothing but habits. The habit of saying Me... Maybe there is no more surprising response to the problem of the self."

²¹¹ Catherine Malabou, "Addiction and Grace", Preface to Félix Ravaisson, *Of Habit* (London and New York: Continuum, [1838] 2008), pp. x, 7-8. "While the Cartesian philosophy of the subject is too dualistic to accord any positive *role* to habit, Hume's more sympathetic treatment is too methodologically limited to offer a positive account of habit. Ravaisson's essay challenges both dualism and empiricism by claiming that reflection on habit uncovers a continuity between mind and body, freedom and necessity, will and nature, that is inaccessible to the understanding as well as to the senses."

retrievable, as opposed to the communicational model where data is *address* retrievable. According to him, the simple act of seeing a colour or of hearing a sound is already an act of memory that contracts a quantitative multitude into a qualitative multiplicity. But this contraction-memory is an entirely different thing from the engram-memory of our computers which is but a sequence of bits. Cache offers the following explanation: "[A] contraction-memory is the act by which we constitute our present/presence by contracting a series of moments into the thickness of a duration. It is the act whereby a bit of information is incarnated through a perceptual support [...]"²¹² Address-retrievable memory is retrospective, going from the present to reactivate the past, whereas content-retrievable memory moves in the other direction, coming from the past to 'energise' the present. This is a major obstacle for *symbolic* computing. Take googling, where both textual and graphic content is retrievable only through an address. Try to find an image you have seen earlier. It is impossible unless you remember the name.²¹³ The signifier is of course, as always, arbitrary. DeLanda wittingly proposes that you either believe that the Inuit people distinguish between twenty-nine kinds of snow because they have twenty-nine different names for it ('linguisticos') or that the synonyms have started to accumulate because local conditions require that the population interact with the snow on a daily basis (materialists).²¹⁴ Surely, there was a world long before the word. The environment of life is always seen as meaningful. We cannot put the cart before the horse. The relationship between stimulus information and the environment is therefore natural (motivated) and not arbitrary.

²¹² Bernard Cache, "Objectile: The Pursuit of Philosophy by Other Means?" in *Architectural Design* (Vol. 69, No. 9-10, 1999), p. 68.

²¹³ As of recently the Google search engine is equipped with additional filters for image browsing: Size (large, medium, icon, larger than..., exactly...); Type (face, photo, clip art, line drawing) and Colour (full colour, black and white). It is nevertheless obvious that all (except for 'face') are in fact related to form, rather than content.

²¹⁴ Massumi addresses the current dominance of language in cultural analysis in the following terms: "A common thread running through the varieties of social constructivism currently dominant in cultural theory holds that everything, including nature, is constructed in discourse. The classical definition of the human as the rational animal returns in new permutations: the human as the chattering animal. Only the animal is bracketed: the human as the chattering of culture. This reinstates a rigid divide between the human and the nonhuman, since it has become a commonplace, after Lacan, to make language the special preserve of the human [...] saying that nature is discursively constructed is not necessarily the same as saying that nature is *in* discourse [...] for in either case, nature as naturing, nature as having its own dynamism, is erased." See: Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002), p. 231.

068 **Elbow Room** When René Magritte placed the caption 'This is Not a Pipe' beneath an image of a pipe he was hinting at the peculiar nature of representation. In the same vein, Robin Evans reminds architects that they do not make buildings but drawings of/for buildings. Lars Spuybroek stresses the arbitrariness of the convention of architectural representation (horizontal programme vs. vertical appearance) and the need to get to grips with the continuum of experience.²¹⁵ Action and perception are inseparable. However, we also need to be attentive to the difference (in kind) between the actual 'experience of space' and the virtual 'space of experience.' This is not unrelated to the distinction that Walter Benjamin makes between *Erfahrung* and *Erlebnis*.²¹⁶ Both these terms denote experience but have different meanings. *Erlebnis* is something you have, the root of the word means life and the word is sometimes translated as 'lived experience'. *Erfahrung* is something you *undergo* and is qualified as cumulative experience. For Benjamin, modern life causes a major trauma (shock) because *Erlebnis* is no longer 'registered' as *Erfahrung*.²¹⁷ 'Undergoing architecture' marks an attitude where each new experience (micro-shock) is not simply added to previous experiences, but rather results in restructuring the whole of (pure) experience. That is why a person who is considered experienced has become so not only through experience but by being open to new experience. It could be argued that recent Colebrook's diagnosis of what she calls 'Hyper-Hypo-Affective Disorder' resonates with Benjamin's thesis. The condition marks a paradox of simultaneous addiction to *Erlebnis* and the feeling of indifference in the absence of *Erfahrung*. This could indeed become a self-fulfilling prophecy caused by the systematic confusion/conflation/reduction of an event (duration) with a state of things (snapshot). "This is *still* not a pipe", Magritte updated the caption a quarter of a century on ("try to fill it with tobacco"). As Bernard Cache shows in the seminal *A Plea for the Euclid*, despite the recent frenzy of architectural folding not a single architect seemed to notice that the *Möbius* house had already been built, albeit in Euclidian geometry which remains "the most convenient for the

²¹⁵ Lars Spuybroek, "The Primacy of Experience" in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 78.

²¹⁶ See: Walter Benjamin, "On Some Motifs in Baudelaire" in *Illuminations: Essays and Reflections*, ed. Hannah Arendt (New York: Schocken, [1939] 1968), pp. 155-200. "Baudelaire battled the crowd - with the impotent rage of someone fighting the rain or the wind. This is the nature of something lived through (*Erlebnis*) to which Baudelaire has given the weight of an experience (*Erfahrung*). He indicated the price for which the sensation of the modern age may be had: the disintegration of the aura in the experience of shock."

²¹⁷ Benjamin famously sought a synthesis of *Erlebnis* and *Erfahrung*. His striving to save the material basis of aesthetic experience was part of a much larger struggle against the corrosive cultural impact of 'late capitalism' which threatened to destroy all forms of genuine experience by reifying abstractions into things.

purpose." He meant *Centre Pompidou* by Richard Rogers and Renzo Piano (1971-1977):

[O]ne would enter by the main entrance [...] and, so doing, he would not pass directly to the inside but to an intermediate kind of situation, where he remains in a kind of exterior space although being already in the interior of the building. This mixed situation arises from a series of conditions, such as the vastness of the hall, the stains of rainwater on the gray carpet, or the streams of people in coats heading chaotically to escalators where, strangely enough, one would find himself in the inverse mixed situation. The escalators obviously take people back to the outside, suspending them in the air while they contemplate the Parisian skyline, but in the meantime, even if one is again confronted by the weather, one would find oneself more sheltered than one was before in the main hall. The narrow dimensions of the tube, its circular section, and the stillness of the people standing on the mechanical steps while starting to undress, contribute to create a kind of cosy atmosphere which can even become oppressive. And finally, it is only when one enters the rooms of the museum or of the library that one really feels inside, freed from this tension between interior and exterior.²¹⁸

To presume that the non-metric topological 'geometry of experience' needs to be maintained in (striated) actuality at any cost is a common misunderstanding of the contemporary avant-garde. Even the most rigidly metric or stratified actualisation has capacities to affect and be affected and, therefore, given that there is a host of unactualised stable states available to the *assemblage* as a Whole, it may not be limited to a single stable equilibrium. In other words, 'smoothing of architecture' transcends mere appearance. What is overlooked is that there is no structural homology between the realms of sensible and intelligible. The 'object' resists being reduced to a mere equivalence to its meaning within a system of signification, and the Figural (neither figurative nor abstract) marks this resistance. This shift is as post-phenomenological as it is post-structural.²¹⁹ In other words, not only would Magritte need the caption 'This

²¹⁸ Bernard Cache, "Plea for Euclid," in *Arch'it, rivista digitale di architettura* (1998), http://architettura.supereva.com/extended/19990501/index_en.htm (accessed May 25, 2011). "The Möbius strip has now become common place in contemporary architecture, although in most projects this remains more a rhetorical figure than a geometrical structure. But there is one well-known building which actually has a rather complex topological structure that has been overlooked, at least to our knowledge. This building is the Beaubourg Center in Paris. [...] So, recapitulating this experience, we would say that one comes from the outside to enter in an external interior and then proceed into an internal exterior before finally getting inside. This spatial experience has the topological structure of a Klein bottle."

²¹⁹ See: Miguel de Beistegui, "Science and Ontology: from Merleau-Ponty's 'reduction' to Simondon's 'transduction' in *Angelaki* (Vol. 10, No. 2, August 2005), pp. 109-122. "One

is Not Architecture' beneath an image of a building but also in front of an erected (actualised) building, as it were. We do not yet know what a building (body) can do, to paraphrase Spinoza (try to fill it with people).²²⁰ It is certainly impossible to make any judgement on the basis of its geometry just as it is impossible to study the anatomy of half a chicken in any meaningful way. Things themselves are bearers of ideal events which do not always coincide with their properties. [Table xxxii] The 'leeway' (zone of indiscernibility) was already identified by the Stoics: it is not where the form stops (outline) but rather where the action stops (affect). Spuybroek is therefore as wrong about the 'stupidity' of the straight line as was Le Corbusier, before him, about the 'stupidity' of the curved line which he notoriously took as the index of a donkey's movement.²²¹ *Deeper than space there is spatialisation.*

James C. Scott in his *Seeing Like a State* exposes a fallacy of focusing on the properties of products (representation) by way of an example of forest homogenisation. His is an exemplary case of the Deluzian 'striation' of space by the state apparatus. In Germany, the 'scientific' forestry of the eighteenth and nineteenth century led to the planting and harvesting of large mono-crop forests of Norway spruce and Scotch pine. For the first century or so, pockets of forest owners mushroomed as more and more valuable trees were harvested from the increasingly ordered and managed forests. However, foresters did not understand the ecological web that they were trying to manage. Clearing the underbrush to

decisive conclusion concerns the change of emphasis from a nature that was essentially fixed and immutable, made of beings grasped in what we could call their final, already made, or fully individuated phase, to a nature that is essentially evolving, in the making, and thus irreducible to its actual realisation in a fixed time-space."

²²⁰ See: the Delft School of Design (DSD) journal: Isabelle Doucet and Kenny Cupers, ed., *Footprint: Agency in Architecture; Reframing Criticality in Theory and Practice* (No. 4, Spring 2009), <http://www.footprintjournal.org/issues/current> (accessed May 25, 2011). In his contribution, Scott Lash expresses his concern about the teleological overtone of the notion of agency. See: Scott Lash and Antoine Picon, "Agency and Architecture: How to be Critical?" The 'problem of agency' in Foucault is recently tackled by Jeffrey T. Nealon, *Foucault Beyond Foucault; Power and its Intensifications since 1984* (Stanford, CA: Stanford University Press, 2008), pp. 101-102. "[I]n Foucault's work there's quite literally nothing but agency. There are in fact many more forms of 'agency' than there are 'agents'. Sexuality, surveillance resistance: these things are verbs or deployments of force, or at least that's what they are before they become attached to nouns, subjects, or states of being."

²²¹ Both statements qualify as unfortunate cases of representational thinking. Fortunately, Le Corbusier was never as consistent as Lars Spuybroek. Brian Massumi's case for "topological architecture [...] as in a way of continuing its process in its product" in his otherwise indispensable *Parables for the Virtual* proves that the very proponents of new materialism sometimes fail to live up to their own standards. He too commits the 'fallacy of misplaced concreteness' after 190 pages of pure 'critique of pure feeling'.

make it easier for lumberjacks to move about in the forest "greatly reduced the diversity of insect, mammal, and bird populations."²²² The absence of animals and rotting wood on the forest floor greatly reduced the replenishment of the soil with nutrients. In places where all the trees are mature, of the same age and of the same species, storms can wreak havoc as trees knock each other over like bowling pins. When they find a mono-crop forest, pests and parasites that attack a particular species hit a bonanza and grow to epidemic proportions. The result is what the Germans call *Waldsterben*, the death of the forest, as it becomes both a pale shadow of its previous ecological richness and an inefficient source of timber for human use. The consequences arising from such a synoptic view are a traumatic reminder that *map is not a territory*.²²³

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VIRTUAL	INTENSIVE	ACTUAL
<i>pre-individual</i>	<i>impersonal</i>	<i>personal</i>
problems		solutions
differenTiation		differenCiation
IDEAL events		REAL events
idea		knowledge
sense		proposition
haptic		optic
abstract		concrete
directional		dimensional
non-metric		metric
smooth		striated

+++++

xxxii **Virtual - Intensive – Actual (Registers):** *The intensive is the space-time of individuation processes (actualisation of the virtual).*

²²² James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale UP, 1998), p. 20.

²²³ "We say the map is different from the territory. But what is the territory? Operationally, somebody went out with a retina or a measuring stick and made representations which were then put on paper. What is on the paper map is a representation of what was in the retinal representation of the man who made the map; and as you push the question back, what you find is an infinite regress, an infinite series of maps. The territory never gets in at all. [...] Always, the process of representation will filter it out so that the mental world is only maps of maps, ad infinitum." See: Gregory Bateson, "Form, Substance, and Difference" in *Steps to an Ecology Of Mind; Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (New York: Ballantine, 1972), p. 322.

3.3.2 Ex Uno Plura

069 **Boundary** According to Dennett, 'If you make yourself really small you can exteriorise everything.'²²⁴ This monadic attitude has been gradually superseded by the nomadic, as the advanced fields of neuro and cognitive sciences recognise the porosity and contingency of the boundary between the inside and the outside. However, one should not dismiss the importance of autonomy at certain levels and not just for practical purposes. This is why Deluzian 'deterritorialisations' are always followed by 'reterritorialisations', or at least why they ought to be.²²⁵ It is yet another lesson disregarded by the neo avant-guard that it is both about the striated and the smooth. Humans operate in a very restricted portion of reality. Technology, in the broad sense of the term including 'epigenetics'(e.g. language) and its sedimentation 'epiphylogenetics' (e.g. buildings), expands the realm of sensibility.²²⁶ It acts as 'scaffolding', as Andy Clark argues in his book *Being There: Putting Brain, Body and World Together Again* (1997).²²⁷ This is also known as the *Baldwian Evolution* or evolution by other (epigenetic) means. What humans achieve through accumulation and improvement of cultural artefacts and practices is not short of the ultimate magic trick of 'bootstrapping', or the "Ratchet Effect" as Michael Tomasello refers to it.²²⁸ This has led, in time, to the emergence of the built environment within which the human mind has evolved and within which it develops. The affordances of this environment are both natural and artificial, and every shade in between. The Gibsonian psychologist John Pickering explains:

Matter is sensate, and this primordial intentionality, this mind-stuff, has been concentrated into autopoietic systems which preserve and diversify themselves through mutual semiotic evolution, modifying the environment in the process. The human environment, thus becomes a special case since it is a largely a

²²⁴ For Dennett's account on the inadequacy of the predominant impoverished theories of experience, such as phenomenology, see: Daniel C. Dennett, *Consciousness Explained* (Boston: Back Bay Books, 1991).

²²⁵ On (re)territorialisation see: Elisabeth Grosz, *Chaos, Territory, Art; Deleuze and the framing of earth* (New York: Columbia UP, 2008), p. 69. "Territory is produced, made possible, when something, some property or quality, can be detached from its place within a regime of natural selection and made to have a life of its own, to resonate, just for itself. Territory is artistic, the consequence of love not war, of seduction not defence, of sexual selection not natural selection."

²²⁶ Bernard Stiegler, "Who? What? The Invention of the Human," in *Technics and Time, 1: The Fault of Epimetheus* (Stanford, CA: Stanford University Press, 1998), pp.134-179.

²²⁷ Andy Clark, *Being There: Putting Brain, Body and World Together Again* (Cambridge, MA: MIT, 1997).

²²⁸ Michael Tomasello et al., "Cultural Learning" in *Behavioral and Brain Sciences* (Vol. 16, 1993), pp 450-488.

human creation from which the unique reflexivity of human experience emerges.²²⁹

Coping with the world – thanks to the co-evolution of the environment and the animal (human) - is rather effortless and, according to Sara Ahmed, "what we 'do do' affects what we 'can do'. This is not to argue that 'doing' simply restricts capacities. In contrast, what we 'do do' opens up and expands some capacities, although an 'expansion' in certain directions might in turn restrict what we can do in others."²³⁰ No representational schema is needed in order to assess the opportunities and risks that the living environment offers or provides. We do not see the shape first and re-cognise its (necessary and sufficient) properties - placing it in the category with the essence of 'chairness' - before we eventually decide to use it for sitting. What one sees, according to Gibson, is the (proto-epistemological) 'affordance', or the 'sit-on-ability' as an event. Where computer-like processing may occur is only in rare cases of brain damage, as reported by Merleau-Ponty (Schneider example), when patients need to go through all the rational steps (this is my arm, I am now going to raise it).²³¹

070 **Mathēsis Universalis** Human beings have the marvellous capacity to zero in on the 'matter of concern' precisely because they do not need to calculate or represent anything. Ego-logy gives way to eco-logy at a 'meso-scale' which is commensurate with human life. This approach is as opposed to the 'ghost in the machine' as it is to neuro-reductionism. Any account of the workings of the brain which is based on internal forces misses the most important feature of comportment, namely, that the organism does not respond to the stimuli impinging on its sense organs but determines and responds to the significance of

²²⁹ John Pickering, "Affordances are Signs" in *Triple C* (Vol. 5(2), 2007), pp. 73-74.

²³⁰ Sara Ahmed, "Orientations Matter" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), pp. 246, 252. "We could say that history 'happens' in the very repetition of gestures, which is what gives bodies their dispositions or tendencies. We might note here that the labor of such repetition disappears through labor: if we work hard at something, then it seems 'effortless'. This paradox - with effort it becomes effortless - is precisely what makes history disappear in the moment of its enactment. The repetition of work is what makes the signs of work disappear. It is important that we think not only about *what* is repeated but also about how the repetition of actions takes us in certain directions: is repeated but also about how the repetition of actions takes us in certain directions [...]."

²³¹ Merleau-Ponty centres his critique on the pathological case of Schneider, a German soldier wounded in WWI. Schneider was able to perform 'concrete movements' (e.g. light a lamp) but not 'abstract' movements (e.g. 'extend your arm parallel to the floor') without watching his limbs; he could not describe the position of his limbs when they were stationary, etc. See: Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge Classics, [1945] 2003), pp. 130, 181.

the situation for the organism.²³² This is not unrelated to the 'Moravec paradox': It is comparatively easy to make computers exhibit adult-level performance on intelligence tests or a game of checkers. However, it is difficult or impossible to give them the perception and mobility skills of a one-year-old.²³³ This capacity has recently been put to practical use for spam prevention. A Captcha is a type of challenge-response test used in computing to ensure that the response is not computer-generated. It is sometimes described as a reverse Turing test, because it is administered by a machine and aimed at a human, in contrast to the standard form.²³⁴ A common type of Captcha requires the user to copy letters or digits from a distorted or stricken-through image that appears on the screen. What seems infinitely difficult for AI is an effortless task for a human.

Another important concept by Gibson is that of the extraction of the 'formless invariants' in perception (over time!). The key is to trace permanence in the face of change (of position or perspective or both). Topology is helpful yet again in addressing a second (or higher) degree order of abstraction: how the change changes. This is closely related to his insight into occlusion, or accretion and deletion in the visual field, which is the topic of the next chapter. Although Gibson was never explicit about the topological basis of his theory, it could be argued that it is indispensable. A biographical note by his disciple Robert Shaw is revealing:

Ironically, the idea [of topology] originated from Gibson's (1950) discussions of transformational groups and the properties they leave invariant, which he had borrowed from Ernst Cassirer's 1944 paper titled "The Concept of Group and the Theory of Perception." Around this same time, I discussed this idea of generative closure with Gibson and thanked him for putting me on to it. To my great surprise, Gibson staunchly denied ever having read Cassirer - not relinquishing his denial until I pointed out his use of Cassirer's ideas in his first book [*The Perception of the Visual World*]. Gibson laughed, shaking his head.

Gibson's tacit endorsement of topology - which can be inferred from the following quote in 1950 as reported by Shaw - was paramount in setting the course for research in the field of radical empiricism:

²³² Hubert L. Dreyfus, "Merleau-Ponty and recent Cognitive Science" in *The Cambridge Companion to Merleau-Ponty*, ed. Taylor Carman and Mark Hansen (Cambridge: Cambridge UP, 2005), p. 143.

²³³ The principle was articulated by Hans Moravec, Rodney Brooks, Marvin Minsky et al. in the 1980s.

²³⁴ Alan Turing, "Computing machinery and intelligence" in *Mind* (No. 59, 1950), pp. 433-460. <http://www.abelard.org/turpap/turpap.php> (accessed May 25, 2011).

The geometry of transformations is therefore of considerable importance for vision, and it is conceivable that the clue to the whole problem of pattern-perception might be found here [...] A transformation is a regular and lawful event which leaves certain properties of the pattern invariant. Gibson also said later: "If we are ever to understand exactly what yields a perception of shape we must study the dimensions of variation of various shapes."²³⁵

It is this concrete abstractness that sets Gibson apart from naïve realists. Although the meso-scale 'facts' are *consistent* with physics, mechanics, optics, acoustics and chemistry, they are effectively "facts of higher order that have never been made explicit by these sciences and have gone unrecognised."²³⁶ As Barry Smith points out, in contrast to the naïve realist position, it is possible to develop a *realist* theory in a manner which does not involve the rejection of standard quantitative physics.²³⁷ Gibson defines 'ecology' as a discipline that should encompass facts of higher order. It is "a blend of physics, geology, biology, archaeology, and anthropology, but with an attempt at a non-totalising unification on the basis of the Spinozian question of affect or what he himself calls affordance."²³⁸ As a matter of fact, it would make more sense to state that quantitative physics is consistent with ecology than vice versa. Any approach that does not take into account the ontological difference between the 'objective' and 'qualitative' order will miss the real movement of the world, as Massumi explains.²³⁹

If the cause of the thing is located on the same existential level as its effect, nothing can be understood of change. Nothing can be understood of how a given form came to be, and why it will inevitably become other than it is. Nothing is understood but the self-sameness of form, as implying only unchanging laws of

²³⁵ Robert Shaw, "The Agent-Environment Interface: Simon's Indirect or Gibson's Direct Coupling?" in *Ecological Psychology* (Vol. 15 (1), 2003), p. 74. Cf. James Jerome Gibson, *The Perception of the Visual World* (Boston: Houghton Mifflin, 1950), pp. 153, 193.

²³⁶ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p.17.

²³⁷ Barry Smith and Roberto Casati, "Naive Physics: An Essay in Ontology" in *Philosophical Psychology* (Vol. 7/2, 1994), pp. 225-244. "What matters are certain sorts of perceptually detectable (salient) boundaries which are present in the underlying physical reality, boundaries which are not addressed in quantitative physical theory. The doctrine of emergence that is hereby implied is accordingly one of the emergence not of *things* but of *boundaries* or *contours*." [emphases in the original]

²³⁸ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 21.

²³⁹ Brian Massumi, "The Archive of Experience" in *Information is Alive: Art and Theory on Archiving and Retrieving Data*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Organisatie/EU European Culture 2000 Program, 2003), pp. 142-151.

extrinsic interaction already incumbent in the form. This is common-place empiricism, which understands the event as a change of state: an 'accident' extrinsic to the definition of the thing. An approach of this kind has no way of conceptualizing changes in nature, qualitative transformation, except as an accumulation of *quantitative* changes. The world is reduced to variations in quantity.²⁴⁰

However, it would be equally wrong to reject *intensive* quantities. This leads us to Deleuze's objection to Bergson. Deleuze insists that there is not a pure quality that then falls into measure. It is always a question of certain thresholds being reached, a certain quantity that will allow for the unfolding of a quality. In any event, clear-from-the-obscure seems to be the recurrent pattern of *mathēsis universalis* of ontogenesis. All thinking begins from the sensible but the differential calculus behind all the becomings, including the sensible, does not begin with the 'lived'.²⁴¹ The Deleuzian concept of 'static genesis' as the emergence of the 'structure' - not in a continuous or lived relation (out of sensibility) but out of a field of potential - provides for a set of possible relations that enable the 'downstream' emergence through time (dynamic genesis). Space is not a passive unchanging physical object inside of which things happen. It is the living tissue itself, constantly changing, created by events and inseparable from them.²⁴² The concept of multiplicity offers a radically new relationship between *one* and *many* with no primacy of either.

²⁴⁰ Brian Massumi, "Surfacing (Too Late)" in *Deleuze, Guattari, and the Philosophy of Expression (Involuntary Afterword)*, ed. Brian Massumi (Toronto: Univ. of Toronto, 1997). http://www.anu.edu.au/hrc/first_and_last/works/crcintro.htm (accessed May 25, 2011).

²⁴¹ See: Nina Bonderup Dohn, "Affordances Revisited: Articulating a Merleau-Pontian View" in *International Journal of Computer-Supported Collaborative Learning* (Vol. 4, No. 2, June 2009). "[T]he existence of an affordance does depend on culture and experience in the sense of the German *Erfahrung*, though it does not depend on actual perception here and now and, therefore, not on experience in the sense of the German *Erlebnis*. It should be noted that when Gibson speaks of affordances as experience-independent, it is in this latter sense of the word." Cf. James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 137, 139–140.

²⁴² See: Sanford Kwinter, "La Città Nuova: Modernity and Continuity" in *Architecture Theory Since 1968*, ed. Michael K. Hays (Cambridge, Mass: MIT, 1998), p. 592. In aesthetics, no less than physics, the turn of the last century brought about a decisive transformation in the concept of space. "Beginning with Hildebrand's *Problem of Form* (1893) in which space appears for the first time both as autonomous aesthetic concept and, more importantly, as a continuum unbroken and indistinct from solid objects, to its development in Reigl and its ultimate identification with *Kunstwollen*, and finally to the later syntheses of Panofsky's *Die Perspektive als 'sybolische Form'*, space emerged with a new positivity as an object of both knowledge and direct experience."

Chapter Four AFFECT ATTUNEMENT

It is important to realize that the flowing perspective structure and the underlying invariant structure are concurrent. They exist at the same time. Although they specify different things, locomotion through a rigid world in the first instance and the layout of that rigid world in the second instance, they are like the two sides of a coin, for each implies the other. This hypothesis, that optical change can seemingly specify two things at the same time, sounds very strange, as if one cause were having two effects or as if one stimulus were arousing two sensations. But there is nothing illogical about the idea of concurrent specification of two reciprocal things. Such an idea is much needed in psychology.¹
(J.J. Gibson, 1979)

The world, the self, and God (a sphere, a circle, and a center): three conditions that make it impossible to think through the event. Deleuze's proposals, I believe, are directed to lifting this triple subjection that, to this day, is imposed on the event: a metaphysics of the incorporeal event (which is consequently irreducible to a physics of the world), a logic of neutral meaning (rather than a phenomenology of signification based on the subject), and a thought of the present infinitive (and not the raising up of the conceptual future in a past essence). [...] And it is good sense that reigns in the philosophy of representations. Let us pervert good sense and allow thought to play outside the ordered table of resemblances; then it will appear as the vertical dimension of intensities, because intensity, well before its gradation by representation, is in itself pure difference.²
(M. Foucault, 1970)

¹ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 76.

² Michel Foucault, "Theatrum Philosophicum" in *Critique* (No. 282, 1970), pp. 885-908.

4.1 Radical Empiricism

4.1.1 Spermatikos Logos

071 **Transversality** In *What is Philosophy?* Gilles Deleuze and Félix Guattari distinguish between three (irreducible) creations or becomings: Philosophy, Science and Art.³ [Table xxxiii] What seems to be the essential difference between them is the 'direction' they take with regard to chaos.⁴ Science and philosophy take opposite directions. Science operates 'down the stream' of actualisation (differentiation), whereas Philosophy chooses to go upstream in counter-actualisation (differentiation). Art does something completely different. It preserves the infinite in the finite. Deleuze describes its power by quoting Marcel Proust:

By art alone, we can get outside ourselves, can know what others see in this universe that is not the same as ours and whose landscapes would have remained as unknown to us as those that may be on the Moon. Thanks to art, instead of seeing a single world, our own, we see it multiplied, and we have as many worlds at our disposal as there are original artists, worlds more different from each other than those that spin through infinity [...]⁵

Each of the three becomings thinks with its own material forces: *functions* in the case of science, *concepts* for philosophy and *signs* or "that which flashes between" (percepts and affects) in the case of art. What then is architecture? In terms of its kinship with art, architecture belongs to what the art historian Arthur Danto calls the third realm of beauty, that is, neither 'natural' (sunset), nor artistic (fine arts), but the 'applied'. In the third realm, as Mark Kingwell explains, beauty is always political because, one way or another, it always addresses the issue of how to live: "Third-realm beauty may be aspirational, admonitory or inspiring, it may, too frequently, be merely consumeristic. It may be all of these at once."⁶ In the words of the art historian Robert Hughes, "Painting can make us happy, but

³ It is interesting to note that the constructivist attitude of Deleuze (and Guattari) is reflected in the variation of near synonyms in their work so that *apprenticeship* in *Proust and Signs* (1964) becomes *actualisation* in *Bergsonism* (1966), *genesis* in *Difference and Repetition* (1968), process of *production* in *Anti-Oedipus* (1972) and finally *creation* in *What is Philosophy?* (1991).

⁴ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), pp. 155-156.

⁵ Marcel Proust, *In Search of Lost Time* quoted in Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 122.

⁶ Mark Kingwell, *Concrete Reveries: Consciousness and the City* (New York: Viking, 2008), p. 81.

building is the art we live in; it is social art *par excellence*, the carapace of political fantasy, the exoskeleton of one's economic dreams. It is also one art nobody can escape."⁷ Although architecture, by its very nature, transverses all of the planes - Philosophy, Science and Art - its sole purpose is to create *affordances*, to make experience 'stand on its own', that is, apart from the object and distinct from the architect. But the greater the extent to which it communicates with the other planes (as in the feed-back loop), the more can it rightfully be claimed that the culture of hylomorphism has been superseded.⁸

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PHILOSOPHY	ART	SCIENCE
A R C H I T E C T U R E		
Plane of immanence	Plane of Composition	Plane of Reference
A>VIRTUAL	INTENSIVE	V>ACTUAL
CONCEPT	PERCEPT/AFFECT	FUNCTION
conceptual persona	aesthetic figure	partial observer
<i>variations</i>	<i>variables</i>	<i>varieties</i>
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What is Architecture? *The three planes, along with their elements, are irreducible: plane of immanence of philosophy, plane of composition of art, plane of reference or coordination of science; form of concept, force of sensation, function of knowledge; concepts and conceptual personae; sensations and aesthetic figures, figures and partial observers. Analogous problems are posed on each plane; in what sense and how is the plane in each case, one or multiple—what unity, what multiplicity? But what to us seem more important now are the problems of interference between the planes that join up in the brain.*⁹ (G. Deleuze and F. Guattari, 1991)

'Hylomorphism' is a compound word composed of the Greek terms for matter (*hylē*) and form or shape (*morphē*). It was the central doctrine of Aristotle's philosophy of nature which described the genesis of form as external to matter, as imposed from the outside on an inert material. In contrast, the *spermatikos logos* of the Stoics - the immanent principle of organisation - requires a different

⁷ Robert Hughes, *The Shock of the New: Art and the Century of Change* (New York: Knopf, 1991), p. 164.

⁸ This will not be an easy task given the resilience of the 'two worlds myth'. See: Peter Hallward, *Out of This World; Deleuze and the Philosophy of Creation* (London: Verso, 2006), p. 164. "As Deleuze understands it, living contemplation proceeds at an immeasurable distance from what is merely lived, known or decided. Life lives and creation creates on a virtual plane that leads forever out of our actual world. [sic]."

⁹ Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 216.

experimental attitude of 'partnership' with matter.¹⁰ There simply are no methodologies to follow and no opinion (*doxa*) is welcome. If form is not to be imposed from the outside (by decree or architectural *plan*) but rather 'teased out' of the latent potentiality of the *plane* (of immanence), a more humble and yet empowering disposition is required from the architect.¹¹ Most essentially, spatio-temporal relations must not be confused with logical relations.¹² The American writer and activist Jane Jacobs, (overly) celebrated for her opposition to the infrastructural planning of her nemesis Robert Moses should, in fact, be praised for another aspect of her legacy. In her *The Economy of Cities* (1965) Jacobs ably debunks age-old orthodoxy.¹³ Instead of *logically* concluding that the city is an effect of agriculture, she conclusively proves that it is rather the other way around. The city is the 'cause' of agriculture. The hylomorphic flag applies as much to the creator conceived as a subject as it does to the act of creation. In other words, neither object nor subject is ever ready-made. The 'reversed ontology' of trying to account for the *possible* rather than *real* experience is simply a false movement.¹⁴ It is not the real that resembles the possible, but the other way around.¹⁵ One of the great innovations of Deleuze's philosophy, as Rosi Braidotti explains, is the rigorous brand of methodological pacifism that animates it:

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- ¹⁰ See: John Sellars, "The Point of view of the Cosmos: Deleuze, Romanticism, Stoicism" in *Pli* (No. 8, 1999).
- ¹¹ The Deleuzian opposition between the metaphysical 'plan' (problem solving) and experimental 'plane' (innovation) in terms of a new relationship between thinking and doing, or rather 'thinking as doing', is theorised by Speaks. See: Michael Speaks, "Design Intelligence: Or Thinking After the End of Metaphysics" in *A+U: Architecture and Urbanism* (No.12 (387), 2002), pp.10-18.
- ¹² See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 197.
- ¹³ The dispute between Robert Moses and Jane Jacobs reflects the great urbanist issue of the twentieth century. The two figures have effectively become symbols: Jacobs as the secular saint of street life, representing a humane approach to urban planning grounded in the messy interactions of the neighbourhood, and Moses as the icon of infrastructure established by power, the physical reconstruction of cities with great bridges and wide expressways and tall apartment buildings. See: Anthony Flint, *Wrestling with Moses: How Jane Jacobs Took on New York's Master Builder and Transformed the American City* (New York: Random House, 2009). See also: Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage, 1961), and Jane Jacobs, *The Economy of Cities* (New York: Vintage, 1965).
- ¹⁴ See: Gilles Deleuze, "Michel Foucault's Main Concepts" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 245. "[T]he conditions are those of real experience and not of possible experience, thus being on the side of the 'object,' not on the side of a universal 'subject'."
- ¹⁵ Gilles Deleuze, *Bergsonism* (New York: Zone, [1966] 1988), p. 36.

The monistic ontology that he [Deleuze] adapts from Spinoza, to which he adds the Bergsonian time-continuum, situates the researcher - be it the philosopher, the scientist, or the artist [or the architect] - in a situation of great intimacy with the world. There is no violent rupture or separation between the subject and the object of her inquiry, no predatory gaze of the cold clinician intent upon unveiling the secrets of nature. An elemental ontological unity structures the debate. This nonessentialist vitalist position calls for more complexity and diversity in defining the processes of scientific inquiry.¹⁶

More recently, neuro-cognitive sciences entered the stage. Traditional thought experiments were supplemented with new evidence against endo-reductionist (subject-centred) 'bucket theory of the mind' and in favour of the enactive, embedded, embodied, extended and affective 'searchlight' approach.¹⁷ The brain is shown to be highly susceptible to shaping by environmentally induced neural activity, which is why the (built) living environment may be taken as both effect and cause.¹⁸ If we take the apex of Bergson's (inverted) cone - itself a process of becoming - to be associated with *instinct*, then its base is perhaps closer to *intuition*. In other words, when we picture the past as an expanding cone, then the present, as its most contracted tip, becomes a dimension of the past, and not vice versa.¹⁹ Cecil Balmond explains the difference between the two. Instinct is immediate, an instant recognition of pattern. Intuition, however, is something

¹⁶ Rosi Braidotti, "Elemental Complexity and Relational Vitality: The Relevance of Nomadic Thought for Contemporary Science" in *The Force of the Virtual: Deleuze Science, and Philosophy*, ed. Peter Gaffney (Minneapolis: Minnesota UP, 2010), p. 215. "The nomadic vision of the subject as a time continuum and a collective assemblage implies a double commitment, on the one hand to processes of change and on the other to a strong sense of community - of our being in *this* together. [...] This places the concepts of relation and affect at the center of both the ethics and the epistemic structures and strategies of the subject."

¹⁷ Although there are many significant differences within the 4EA approach, there is also a family resemblance in philosophical and scientific resources. Among the most prominent common reference points are: in mathematical modelling, dynamical systems theory; in biology, an enactive stance; in psychology, Gibsonian ecological psychology; and in philosophy, phenomenology. See: John Protevi, "Adding Deleuze to the Mix" in *Phenomenology and the Cognitive Sciences* (Vol. 9, No. 3, 2010), pp. 417-436.

¹⁸ See: Bruce Wexler, "Shaping the Environments that Shape Our Brains; A Long Term Perspective" in *Cognitive Architecture - From Bio-Politics To Noo-Politics*, ed. Deborah Hauptmann and Warren Neidich (Rotterdam: 010 Publishers, 2010), pp. 144-169. "[...] mother rats differ in the amount of time they spend licking and grooming their pups, and in the ways they position themselves for nursing. Michael Meaney and colleagues found that adult rats that had been licked more as pups had decreased behavioral and hormonal responses to stress, and greater spatial learning abilities."

¹⁹ The past (and future) has no existence independent of its contraction in the present. See: James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), p. 3.

completely different: "It is a force that deliberately extends those patterns of survival. [...] The spur of creativity, the hidden catalytic is intuition. The sharper and more honed the intuition is, the more creative the choices."²⁰ The designer evolves over time by extending those patterns in an abstract sense. In a nutshell, this endeavour presupposes that knowing is something that the organism *does* rather than *has*. This chapter addresses the *ecological* approach to perception by psychologist James Jerome Gibson and his unwitting affiliation with Deleuze's radical anti-representationalism. Like Deleuze, Gibson starts his ecological description 'from the middle', with differences, relationships and structure, rather than with ultimate elements.²¹ His concepts of the Ambient Optic Array, Occlusion (invariant) and Affordance (invariant of invariants) are set against the kindred Deleuzian avatars of the 'Movement-Image'.²²

072 **Coenaesthesia** Michel Serres recounts (in the first person) a dramatic story of a sailor whose vessel is on fire. In an attempt to escape through a narrow window he becomes trapped between the inferno of the burning cabin and the freezing cold of the rough seas. Struggling to squeeze himself out, the sailor begins to contemplate the sense of 'I'. At which point, he wonders, do I consider myself to be effectively outside; is it when the head alone is sticking out, or when the whole chest emerges, or...? This is a problem of coenaesthesia.²³ Bateson goes even further: "[C]onsider a blind man with a stick. Where does the blind man's self begin? At the tip of the stick? At the handle of the stick? Or at some point half-way up the stick?"²⁴ Around the same time (early 80s), Serres' compatriot Gilles Deleuze diagnoses the historical crisis of psychology: it is no longer attainable to place *images* in consciousness and *movements* in space.²⁵ How is one to pass from one order to another once the 'ontological iron curtain' - as Felix

²⁰ Cecil Balmond, "Survival Patterns: Interview by Eric Ellingsen" in *Models*, ed. Emily Abruzzo et al. (New York: 306090, 2007), p. 26.

²¹ Thomas J. Lombardo, *The Reciprocity of Perceiver and Environment: The Evolution of James. J. Gibson's Ecological Psychology* (Hillsdale, NJ: L. Erlbaum Associates, 1987), p. 76.

²² See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986). See also: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986).

²³ *Coenaesthesia* is the general sense or feeling of existence arising from the sum of bodily impressions, as distinct from the 'definite sensations of the special senses'. See: Michel Serres, "Birth" in *The Five Senses; A Philosophy of Mingled Bodies* (New York: Continuum, [1985] 2008), pp. 17-23.

²⁴ Gregory Bateson, *Steps to an Ecology Of Mind; Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (New York: Ballantine, 1972), p. 318. Cf. Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, [1945] 2006), p. 165.

²⁵ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 56.

Guattari will have referred to it - is up?²⁶ The Frenchmen did not seem to be aware of the parallel efforts by the American psychologist James Jerome Gibson who published *The Ecological Approach to Visual Perception* in 1979.²⁷ In what turned out to be his last major scholarly contribution Gibson set the course for a radical anti-representationalist approach to perception.²⁸ There is a strong resonance between Gibson's ecological approach and Deleuze's theses from the first Cinema book. It is, however, unfortunate that in the Deleuzian scholarship the 'Movement-Image' seems to be overshadowed by the subsequent (more speculative) volume dedicated to the 'Time-Image'.²⁹ Notwithstanding the theoretical capacity of the latter, we believe the time is right - from the point of view of architectural discipline - to reopen the former. The Bergsonian trope IMAGE = MOVEMENT from *Cinema 1*, which might as well be attributed to Gibson, is yet to be unpacked.³⁰ No wonder that François Zourabichvili believed that in two hundred years' time we would be teaching that twentieth-century philosophy had ended with two hieroglyphs, the Movement-Image being one.³¹ For our own part, we will try to argue that 'image' is the metonym for the process of perception which does not make it any less opaque.

Movement is a 'phenomenon *sui generis*' which may detach itself from (the) objects of sight. According to Massumi, "If forms are the sensuous traces of amodal linkage, then objects are a *self-archiving of the world of felt relation*."³²

²⁶ Pierre Lévy's expression from Félix Guattari, *Chaosmosis; An Ethico-aesthetic Paradigm* (Bloomington: Indiana University Press, [1992] 1995), p. 108.

²⁷ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986).

²⁸ Gibson was well aware of the philosophical implications of his work. As Reed explains, by the time Gibson obtained his B.A. in philosophy in 1925, such great thinkers as John Dewey, William James, Bertrand Russell, and Alfred North Whitehead had all struggled with this problem of body/mind dualism: "Once a dualism was erected it seemed impossible to eliminate it: If matter is purely physical, then how can aggregates of matter evolve into minds (and surely the brain-mere matter-is the basis of mind)? Yet, if awareness is purely mental, of what relevance to it are the physical trappings of the body?" See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 287.

²⁹ In this second volume of the Cinema series Deleuze asks, "Why did Peirce stop with the thirdness?" The question, however, is beyond the scope of present work. See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 34.

³⁰ Deleuze is referring to the first chapter of Henri Bergson, *Matter and Memory* (New York: Dover Publications, [1896] 2004).

³¹ The other is the 'Time-Image'. See: François Zourabichvili, "The Eye of Montage: Dziga Vertov and Bergsonian Materialism" in *Brain is the Screen: Deleuze and the Philosophy of Cinema*, ed. Gregory Flaxman (Minneapolis: University of Minnesota, 2000), p. 141.

³² Brian Massumi, "Archive of Experience" in *Information is Alive: Art and Theory on Archiving and Retrieving Data*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Organisatie/EU European Culture 2000 Program, 2003), pp. 142-151.

Nothing 'comes through' the sense organs, according to Gibson, neither signals nor pictures, since these organs are components of perceptual systems that extract invariants from the flux of stimulus energy surrounding the observer. Invariants are specific to the world but not to the receptors stimulated. Perception is a skill, not a constructing of the mental world out of psychic components.

4.1.2 Architecture of Theories

073 **Logic of Sensation** In his Cinema books Deleuze relies heavily on Charles Sanders Peirce's 'three principles of Logic': Firstness, Secondness and Thirdness. This is how Peirce explains the triad: "First is the conception of being or existing independent of anything else. Second is the conception of being relative to, the conception of reaction with, something else. Third is the conception of mediation, whereby a first and second are brought into relation [...] The origin of things, considered not as leading to anything, but in itself, contains the idea of First, the end of things that of Second, the process mediating between them that of Third."³³ To put it simply, Firstness is 'in itself', Secondness is 'between', while Thirdness is about pure relation or relation exterior to its terms. It is very important for Peirce to maintain the principle of irreducibility. That is to say that Secondness presupposes Firstness and that Thirdness incorporates both Firstness and Secondness.³⁴ For Peirce, essentialist philosophies are generally dualistic and tend to exaggerate the conception of Second: "for this One is always the other of a manifold which is not one." Nominalist philosophies, on the other hand, have as their principal component the concept of First: "because variety is arbitrariness and arbitrariness is repudiation of any secondness." Deleuze similarly acknowledges a 'dead end' in the reductionist approach of both materialism and idealism: "the one wishing to reconstitute the order of consciousness with pure material movements, the other the order of the universe with pure images in

³³ See: Charles Sanders Peirce, "The Architecture of Theories" from *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover Publications, [1940] 1955), p. 322.

³⁴ See: Charles S. Peirce, *Collected Papers of Charles Sanders Peirce: the electronic edition 1994*, reproducing Vols. I-VI ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard UP, 1931-1935), Peirce: CP 1.362 Cross-Ref: ††. "The first is agent, the second patient, the third is the action by which the former influences the latter. Between the beginning as first, and the end as last, comes the process which leads from first to last."

consciousness."³⁵ In the case of Gibson, the imperative was to navigate between exo-reductionist *Behaviourism* and endo-reductionist *Gestalt*.³⁶

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- 1) Everything that is, is in perception (prehension).
- 2) Take everything as it comes. You cannot pick and choose according to a priori principles or pre-given evaluative criteria.
- 3) Relations must be accounted as being as real as the terms related. In other words, relations have a mode of reality distinct from that of the discrete objects we find in relation.
- 4) Relations are not only real, they are really perceived, and directly so. Relations not only have their own mode of reality, but each has its own immediate mode of appearance.
- 5) "Ninety-nine times out of a hundred" the terms and relations that appear "are not actually but only virtually there."

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xxxiv **Radical Empiricism:** *As William James defined it, there are five guidelines of radical empiricism (Please note that the first guideline also applies to classical empiricism; radical empiricism begins to part company with classical empiricism in the second guideline).*³⁷ (B. Massumi, 2008)

074 **Causal Efficacy** A healthy dose of scepticism led Gibson to conclude that the perplexing lack of correlation between proximal stimulation and perception is due to the mere arbitrariness of physical dimensions that have been chosen for

³⁵ Deleuze follows the lead of Bergson who avoids both idealism and realism and for whom the image is more than what the idealist calls a representation and less than what the realist calls a thing. See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 56.

³⁶ Behaviourist psychologists solved the problem of dualism by eliminating all concepts of mind and explaining them away as forms of behaviour. Conversely, the Gestaltists made a fundamental mistake of treating observers as passive receivers of stimuli. Their approach was essentially nativistic, explaining perception by means of innate principles of organisation. An insightful comparison of the two parallel traditions was provided by Paul Stenner in his lecture on "Deep Empiricism" at *A Topological Approach to Cultural Dynamics Conference, Changing Cultures: Cultures of Change* (Barcelona, December 9-12, 2009).

³⁷ See: Brian Massumi, "The Thinking-Feeling of What Happens: A Semblance of Conversation" in *Inflexions: How is Research-Creation?* (No. 1.1, May 2008), p. 39. www.inflexions.org (accessed May 25, 2011).

the description of the stimulus.³⁸ This, in turn, led to a further conclusion that the appropriate level of describing perception is *ecology*, and not physics or geometry, as adopted in the conventional theory of perception. "Perception has no object" is an assertion by Deleuze which might as well be attributed to Gibson.³⁹ It is 'hallucinatory' because it has no object and presupposes no object because it has not yet been constituted. The ecological ontology, which Gibson developed to displace the Cartesian dualism, is therefore circumscribed by invariant relations or patterns of becoming that need to be defined relative to an appropriate domain of validity. This *direct* perception is based on the ecological realist position which takes things to appear as they do because that is the way they are, as taken in reference to the acting perceiver at the ecological (meso)scale. [Table xxxiv] This is not naïve realism that is absolute, where things appear exactly as they are and unconditionally so. Finally, his is an approach which rejects solipsism and treats the relevant phenomena as necessarily grounded in social practices. There are some indications that understanding the actions of others takes place already at the level of 'mirror neurons'.⁴⁰ Shaun Gallagher has recently argued along the same lines in his explanation of the tenets of *neuro-aesthetics*: "Our engaged understanding of the world [...] is based not on simulation or matching what we see, but on enactive perceptual and interactive processes."⁴¹ Steven Shaviro explains a kindred contribution to the

³⁸ The thesis was set out by Gibson in his earlier book: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966).

³⁹ See: Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 107. "Conscious perception is always a hallucination which refers back to differential relations established between minute perceptions, and that these perceptions express only affections of our material bodies by other material things, never in the form of complete objects, but as 'molecular movements'."

⁴⁰ Autism, a condition where people are socially withdrawn, might turn out to be related to malfunctioning mirror neurons, anecdotally referred to as "monkey see, monkey do". Not only do these neurons respond when a monkey performs an action but also when it sees someone else performing the same action. A decade ago, a macaque monkey wired up for neurological experiments saw an Italian researcher walk into the lab eating an ice cream cone. To the researcher's surprise, each time he licked the cone, the monkey's neurons for planning motor activity fired although the monkey was still and only observing the action of the researcher. This discovery of "mirror neurons" (Rizzolatti and Craighero 2004) has been a hot area of research in neuroscience ever since.

⁴¹ Philosopher and cognitive scientist Shaun Gallagher explains the difference between 'mirror neurons' (MN) and 'canonical neurons' (CN) as follows: MN activation is part of an intersubjective perceptual process that primes/prepares the system for action and response or, more specifically, *for interaction*. In contrast, CN activation prepares the system *for action*. (MN are neurons in the premotor and parietal cortexes that are activated either when one performs an 'intentional' action, e.g., reaching and grasping, or when one sees someone else performing it. CN are neurons that activate either when one reaches for and grasps a tool or an instrument, or when one simply sees it.) See: Shaun

enactive approach to cognition by the process philosopher Alfred North Whitehead:

Western philosophy since Descartes gives far too large a place to 'presentational immediacy,' or the clear and distinct representation of sensations in the mind of a conscious, perceiving subject. In fact, such perception is far less common, and far less important than what Whitehead calls 'perception in the mode of causal efficacy', or the 'vague' (nonrepresentational) way that entities affect and are affected by one another through a process of vector transmission. Presentational immediacy does not merit the transcendental or constitutive role that Kant attributes to it. For this mode of perception is confined to 'high-grade organisms' that are 'relatively few' in the universe as a whole. On the other hand, causal efficacy is universal; it plays a larger role in our own experience than we tend to realize, and it can be attributed 'even to organisms of the lowest grade.'⁴²

075 **Presentational Immediacy** Representational theories of perception postulate an isolated and autonomous 'subject' which is set apart from its milieu and is thus utterly dependent on the process of mental representation. Furthermore, this process is often seen to be staged for another interiorised 'subject'. Gibson repeatedly cautioned against the *homunculus* thesis: "The movements of the hands do not consist of responses [R] to stimuli [S] [...] Is the only alternative to think of the hands as instruments of the mind? [Jean] Piaget, for example, sometimes seems to imply that the hands are tools of a child's intelligence. But this is like saying that the hand is a tool of an inner child in more or less the same way that an object is a tool for a child with hands. This is surely an error. The alternative is not a return to mentalism. We should think of the hands as neither triggered nor commanded but controlled."⁴³ As Massumi puts it, 'zone of indeterminacy' is glimpsed in the hyphen between the stimulus and response (S-R): "Thought consists in widening that gap, filling it fuller and fuller with potential responses."⁴⁴ The task of the architect, as we see it, is to widen the gap

Gallagher, keynote lecture at AG3: *The Third International Arakawa and Gins: Architecture and Philosophy Conference* (2010). <http://ag3.griffith.edu.au/conference/> (accessed May 25, 2011).

⁴² Steven Shaviro, "The Actual Volcano: Whitehead, Harman, and the problem of Relations" in *The Speculative Turn: Continental Materialism and Realism*, ed. Levi Bryant, Nick Srnicek and Graham Harman (Melbourne: re.press, 2011), p. 291.

⁴³ By 'mentalism' Gibson means the approach which appeals to mental representations whereby supposedly each of us builds up his or her own cognitive map of the real world, based on his or her relation to it. It is allegedly this cognitive map or representation we are aware of, not the world itself. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 235.

⁴⁴ Brian Massumi, *A User's Guide to "Capitalism and Schizophrenia": Deviations from Deleuze and Guattari* (Cambridge, Mass: MIT, 1993), p. 99.

between perception and action, for what is *affordance* if not the hyphen between the two?⁴⁵ This is what is meant by *playing with the virtual without actualising it*. A great deal of artificial intelligence (AI) research continues to be based on *template matching* strategies making Popper's metaphor of the bucket (theory of mind) difficult to dispense with. The apparent success of the symbolic AI for intellectual endeavours, such as chess playing, only perpetuates the old cognitive fallacies.⁴⁶ But when it comes to the most elementary spatial navigation, a toddler will easily outperform the most sophisticated of machines, as indeed predicted by Hubert Dreyfus four decades ago.⁴⁷ In the case of movement, the bucket seems but deficient (regardless of its size, to stretch the metaphor even further). The *probing* quality of the searchlight comes to the fore.

4.1.3 Subtraction

076 **Opacity** The searchlight metaphor requires a qualification. It is not a reference to the philosophical tradition which placed light on the side of spirit and made consciousness a beam of light drawing things out of their native darkness, as it were. Deleuze famously considered Phenomenology to be precisely within this ancient tradition: "[B]ut, instead of making light an internal light, it simply opened it onto exterior, rather as if the intentionality of consciousness was the ray of an electric lamp ('all consciousness is consciousness *of* something...'). For Bergson, it is completely the opposite. Things are luminous by themselves without anything illuminating them: all consciousness *is* something, it is indistinguishable from the thing, that is from the image of light."⁴⁸ For Deleuze it is not consciousness which is light, but rather the other way around. As for *our* consciousness of fact, according to him, it will merely be the *opacity* in the absence of which light "is always propagated without its source ever being revealed." The philosophies of substance presuppose a subject which then encounters a datum, as Whitehead explains in his *Process and Reality* (1929).⁴⁹ This subject then reacts to the datum. By contrast, the philosophy of organism

⁴⁵ In opposition to behaviourist deterministic schema of perception leading to a certain action, affordance is always relational, that is, non-deterministic.

⁴⁶ The famous linguist Noam Chomsky allegedly opined that a computer beating a grandmaster at chess is about as interesting as a bulldozer winning an Olympic weight-lifting competition.

⁴⁷ See: Hubert Dreyfus, *What Computers Can't Do* (Cambridge, Massachusetts: The MIT Press, 1972).

⁴⁸ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), pp. 60-61.

⁴⁹ See: Alfred North Whitehead, *Process and Reality: an Essay in Cosmology*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free, [1929] 1978), p. 234.

presupposes a datum (firstness) which is met with feelings (secondness), and progressively attains the unity of a subject (thirdness). It is in this sense that our bodily experience is primarily an experience of the dependence of presentational immediacy upon causal efficacy, and not the other way round.⁵⁰ To put it bluntly, the subject emerges from the world and the world does not emerge from the subject (as in Kant). This is what makes subjectification an aesthetic condition. According to the neuroscientist Antonio Damasio, we are not thinking beings who feel, rather we are feeling beings who sometimes think.⁵¹ The resulting 'topoontological surface' is explicated by Massumi in the following way: "The world and I exist, in difference, in the encounter, in the feeling."⁵² In other words, the given is not given to a subject, rather the subject is constituted in the given. The field of emergent experience, as Manning and Massumi explain, is not (yet) defined as this or that, yet the qualities already interact: "The fields in their immediacy play off each other, lending their qualities to each other, composing a single field of mutual action of co-fusion in changing contrast, commotion, an immediate commotion of qualitative texturing. A generative holding pattern already moving qualitatively towards experience in the making."⁵³

077 **Sifting** Perception, both for Deleuze and Gibson, is clearly an act of subtraction (sieve) and not of enrichment.⁵⁴ It entails a selection of a flow of immediate experience out of the potential ground that is pure experience. This means that there is less in perception than in matter. In the words of François Zourabichvili: "Mind is the membrane of the external world, rather than an autonomous gaze

⁵⁰ See: Alfred North Whitehead, *Process and Reality: an Essay in Cosmology*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free, [1929] 1978), p. 267.

⁵¹ The term 'emotion' in neuroscience appears for the first time as late as 1995. See: Antonio Damasio, "This Time With Feeling", *Lecture at Aspen Institute* (2009). http://fora.tv/2009/07/04/Antonio_Damasio_This_Time_With_Feeling (accessed May 25, 2011).

⁵² Brian Massumi, "Surfacing (Too Late)" in *Deleuze, Guattari, and the Philosophy of Expression (Involuntary Afterword)*, ed. Brian Massumi (Toronto: Univ. of Toronto, 1997). "The immanence is 'transcendental' because it does not coincide with the forms that it expresses, even though it is not fundamentally separate from them ('transcendental' but not 'transcendent')." http://www.anu.edu.au/hrc/first_and_last/works/crclintro.htm (accessed May 25, 2011).

⁵³ Erin Manning and Brian Massumi, "Coming Alive in a World of Texture: For Neurodiversity", a keynote talk-performance at *Dance, Politics & Co-Immunity Thinking - Resisting - Reading the Political* (Giessen, November 12, 2010), <http://www.dance-tech.net/video/brian-massumi-erin-manning> (accessed May 25, 2011).

⁵⁴ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 297. "[P]erceptual learning is a process of discriminating or differentiating variables of stimulation rather than adding meanings to impoverished stimulus input."

directed towards it."⁵⁵ In anthropology the resistance to the symmetry thesis goes by the name of 'obviation approach'.⁵⁶ Quentin Meillassoux explains the underlying principles of such a subtractive theory of perception:

[I]f, to pass from matter to perception, we must add something, this adjunction would be properly unthinkable, and the mystery of representation would remain entirely intact. But this is not at all the case if we pass from the first to the second term by way of a diminution, and if the representation of an image were held to be less than its simple presence. Now, if living beings constitute 'centres of indetermination' in the universe, then their simple presence must be understood to presuppose the suppression of all the parts of the object that are without interest for their functions [...] Perception does not, as in Kant, submit sensible matter to a subjective form, because the link, the connection, the form, belongs wholly to matter. Perception does not connect, it disconnects. It does not inform a content but incises an order. It does not enrich matter, but on the contrary impoverishes it.⁵⁷

The poet William Blake wrote: "If the doors of perception were cleansed every thing would appear to man as it is, infinite." According to the neuroscientist Walter Freeman such cleansing would not be desirable at all. Without the protection of the doors of perception we would be overwhelmed by eternity.⁵⁸ Besides, it is never necessary to distinguish *all* the features of an object and it

⁵⁵ François Zourabichvili, "Six Notes on the Percept (On the Relation between the Critical and Clinical)" in *Deleuze: A Critical Reader*, ed. Paul Patton (Cambridge, MA: Blackwell, 1996), p. 195.

⁵⁶ "The split between the humanities and the natural sciences, and within anthropology between its sociocultural and biological divisions, has its source in a notion of the human being as a composite entity made up of separate but complementary parts, related as (innate) container to (acquired) content. This notion, however, precludes an adequate account of ontogenetic development. An alternative approach, based on a principle of obviation rather than complementarity, sets out to dissolve the boundaries by which the biological, psychological and social components of human being have conventionally been distinguished." See: Tim Ingold, "From Complementarity to Obviation: On Dissolving the Boundaries between Social and Biological Anthropology, Archeology and Psychology" in *Cycles of Contingency: Developmental Systems and Evolution*, ed. S. Oyama, P. E. Griffiths and R. D. Gray (Cambridge, Mass.: The MIT Press, 2000), pp. 255-279.

⁵⁷ Quentin Meillassoux, "Subtraction and Contraction: Deleuze, Immanence, and *Matter and Memory*" in *Collapse: Unknown Deleuze* (Vol. III, November 2007), pp. 72-73. See also: Jonathan Crary, *Techniques of the Observer: On vision and modernity in the nineteenth century* (Cambridge, MA: MIT Press, 1990), p. 71. "Perhaps the most important is his [Goethe's] designation of opacity as a crucial and productive component of vision."

⁵⁸ See: Walter Freeman, "The Physiology of Perception" in *Scientific American* (Vol. 264 (2), 1991), pp. 78-85.

would in fact be impossible to do so.⁵⁹ According to Gibson, perception is economical. "Those features of a thing are noticed which distinguish it from other things that it is not - but not *all* the features that distinguish it from *everything* that it is not."⁶⁰ [emphases in the original]

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EMPIRICISM	All knowledge comes through the senses
ASSOCIATIONISM	Associations between events are detected
GESTALT THEORY	Relations make higher order units
NATIVISM	The newborn gets more than sensations
RATIONALISM	Meaning is intrinsic to perception
TRANSACTIONALISM	We achieve perception of the environment by activities (we do not have to construct it)
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xxxv

The Virtues of the Theories of Perception: *What can be borrowed (salvaged) from them? Perceiving is NOT a matter of constructing a mental representation from sensory inputs, that is, processing of inputs or information, or the 'computation' and construction of mental models of the world on the basis of input data. However, Gibson retains some of the useful theorems from old theories.*⁶¹ (J.J. Gibson, 1966)

In the traditional view, the event is decomposed into a succession of moments, each described by its own stimulus. For the event to be perceived the succession of stimuli needs somehow to be strung back together. A *deus ex machina* is drafted for the mysterious task of reconstituting the dynamic. [Table xxxv] By contrast, in the ecological approach the perceiver's task is merely to detect the event as specified by information.⁶² The 'information' here is meant in Gibsonian terms, not as a code, and it is for this reason that Gibson finds 'tuning in' a more appropriate metaphor than 'computing'. Our bodily units must incorporate within

⁵⁹ The same applies to memory. See: Marc Augé, *Oblivion* (Minneapolis: University of Minnesota Press, [1998] 2004), p. 14. "To praise oblivion is not to revile memory; even less is it to neglect remembrance, but rather to recognize the work of oblivion in the first and to spot it in the second. Memory and oblivion in some way have the same relationship as life and death." This thesis is, in fact, consistent with the plasticity of the brain as explained by contemporary neuro-sciences.

⁶⁰ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 286.

⁶¹ While completing his *The Senses Considered as Perceptual Systems*, the book in which Gibson enunciated his revolutionary thinking, he pondered his indebtedness to the theories he was intent on rejecting as evident in this note. See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 9.

⁶² This is arguably Gibson's most conspicuous contribution to the non-representational approach. He provided a concrete realist alternative to resolving the supposed ambiguity of the structures available in ambient energy by urging a higher-order isomorphism, i.e. invariance detected by the active living organism.

themselves aspects of the world beyond themselves. Strictly speaking, it is more a matter of turning the (ambient) light off with a (selected) exception than turning the searchlight on (in the dark). This is as good a definition as any of the process of actualisation of the virtual.

078 **Tuning in Brain** is a selectional system, according to one of the leading neuroscientists and proponents of enactivism Gerald Edelman.⁶³ The importance of selectivity as the defining characteristic of knowing cannot be overemphasised.⁶⁴ Perception is context dependent and adaptive. It is not a Turing process, Edelman insists, because *the world is a non-labelled place*. Our categories are imposed and retroactive as a result of analytic reflection. Most importantly, our cognition depends on motion, that is, on sensori-motor interaction. The famous formula, also known as the Hebb rule, is that the neurons which fire together - wire together. Synaptic connections thus get strengthened or weakened (excited or inhibited) in the process. This is 'decided' not by the genes but by the epi-genetic level. Therefore, it is not the case of significance being added (represented), rather the whole of experience reacts to the significance of the stimulus (and not representation). When the new pattern gets selected the attractor landscape is rearranged and new basins of attraction are added. There is no memory stored, no compartments or boundaries. Experience is contextual, global and perpetually updated. In a word, it is emergent. This is the gist of Edelman's critique of the cognitivist approach (associative, representationalist). He is not alone in upholding the non-representationalist approach to the mind where representation is superseded by the (topological) field theory.⁶⁵

Building upon the pioneering work of the neuroscientist and philosopher Walter Freeman, his disciple Michael Spivey studies cognition as a self-organising process which involves phase transitions, criticality and autocatalysis.⁶⁶ A phase transition, as a sudden shift in a system's behaviour, is

⁶³ See: Gerald Edelman, "From Brain Dynamics to Consciousness", lecture *Conference on Cognitive Computing: A Prelude to the Future of Brain-Based Devices* (2006). Powerpoint presentation:
<http://www.almaden.ibm.com/institute/resources/2006/Almaden%20Institute%20Gerald%20Edelman.ppt>

⁶⁴ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001), p. 28.

⁶⁵ The idea of using topology as a foundation for cognitive science is not without precursors. There is a tradition established by Brentano, which extends through Carl Stumpf to the Gestalt school. See: Barry Smith, "Topological Foundations of Cognitive Science" in *Topological Foundations of Cognitive Science*, ed. C. Eschenbach, C. Habel and B. Smith (Hamburg: Graduiertenkolleg Kognitionswissenschaft, 1994).

⁶⁶ Walter Freeman is best known for his work on the phase dynamics of the rabbit's olfactory bulb, providing insight into how populations of neurons (acting as dynamic resonators) can

potentially the crucial characteristic of an organism's perceptual dynamics. Consider Spivey's example of the Necker cube.⁶⁷ One cannot instantaneously perceive both of the implicit depictions that the "axonometric wireframe" of a cube offers: from above and from below. The same applies to the rabbit/duck, it is either one or the other. In other words, the ecological view maintains that there exists, in any such (two-dimensional) figure, information about a number of (three-dimensional) shapes. The perceiver merely *selects* one; his attention is directed to that information. Spivey's explanation is that the transition of perceptual states (two in the cases of the Necker cube and rabbit/duck) is, in fact, a phase transition. Experimental evidence suggests that it takes between a third and a half of a second for a trajectory across a 'high dimensional phase space' to settle in one or the other attractor, depending on the vicinity to the 'event horizon' where the actual threshold for overt response is located.⁶⁸ The attractor from the above illustrations being a cube viewed either from the top or the bottom (rabbit/duck). Note that *not all potentiality is already an accrued value*. As the champion of autopoiesis Francisco Varela explains: "Given the myriad of contending subprocesses in every cognitive act, how are we to understand the moment of negotiation and emergence when one of them takes the lead and constitutes a definitive behavior?"⁶⁹ In the field of visual perception, a fraction of a second is a substantial amount of time to be between two possible perceptual states (as in the case of the Necker cube) afforded by a stimulus:

give rise to cognitive processes. Smell appears in this light not as some kind of mapping of external features, but rather as a creative form of enacting significance on the basis of the animal's embodied history. See: Walter Freeman, "The Physiology of Perception" in *Scientific American* (Vol. 264 (2), 1991), pp. 78-85.

⁶⁷ See: Michael J. Spivey, Sarah E. Anderson and Rick Dale, "The Phase Transition in Human Cognition" in *New Mathematics and Natural Computation* (Vol. 5, No. 1, 2009), pp. 197-220. See also: Michael J. Spivey and Rick Dale: "Continuous Dynamics in Real-Time Cognition" in *Current Directions in Psychological Science* (Vol. 15, No. 5, 2006), pp. 207-211.

⁶⁸ In general relativity, an 'event horizon' is a boundary in space-time beyond which events cannot affect an outside observer. In layman's terms, it is defined as "the point of no return", i.e., the point at which the gravitational pull becomes so great as to make escape impossible.

⁶⁹ See: Francesco J. Varela, "The Reenchantment of the Concrete" in *The Artificial Life Route to Artificial Intelligence: Building Embodied, Situated Agents*, ed. L. Steels and R. Brooks (New Haven: Lawrence Erlbaum Assoc., 1995), pp. 11-20. See also: Gilles Deleuze, "Eight Years Later: 1980 Interview" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 177. "[W]e are trying to substitute the idea of assemblage for the idea of behavior: whence the importance of ethology, and the analysis of animal assemblages, e.g. territorial assemblages. [...] In assemblages you find states of things, bodies, various combinations of bodies, hodgepodes; but you also find utterances, modes of expression, and whole regimes of signs. The relation between the two is pretty complex."

[T]hese transitions are not instantaneous, but take at least a couple hundred milliseconds. What this reveals is that on the way toward achieving a stable percept, the brain spends a significant amount of time in regions of phase space that *do not neatly correspond to any of the labelled categories that language, or the experimenter, or society itself, has laid before it.*⁷⁰ [emphasis added]

This proves that sharp transitions in behaviour need not be attributed to formally discrete logical processes, but can emerge instead from nonlinear dynamics in continuous interactions within an assemblage. Such an approach offers a welcome update to the Gibsonian information theory: picking up the invariances in the environment so as to 'select' the most advantageous course of action out of the 'virtual phase space' of the neural population dynamics. Moreover, as such, it endorses a theoretical model of decision-making and attention-control at the pre-reflective level. The selectionist approach is self-consciously compatible with evolutionary biology (Evo) and developmental systems theory (Devo) insofar as the emphasis is on plasticity and adaptation.

Finally, the Gibsonian theory gives an account of the phenomena of *retention* and *protention* (anticipation) without recourse to memory or intuition.⁷¹ It is not implausible, as the philosopher Peter Sloterdijk often suggests, that the emergence of an immune system owes to the incorporated expectation of injury or the risk of potential damage. Cognition, thus, may be best described *not* as a sequence of logical computational states, but as a continuous trajectory through virtual state space (the chreod), flirting with 'meaningful' attractors but rarely settling into them (asymptotic condition).⁷² How else could the brain recognise that 'signals' from different collections of receptors all refer to the same stimulus? Although the collective neural activity 'reflects' the source, the activity itself is not determined solely by the stimulus. There is an enormous plasticity in the

⁷⁰ See: Michael J. Spivey, Sarah E. Anderson and Rick Dale, "The Phase Transition in Human Cognition" in *New Mathematics and Natural Computation* (Vol. 5, No. 1, 2009), p. 205. See also: Michael J. Spivey, *The Continuity of Mind* (New York: Oxford UP, 2007).

⁷¹ Recall how experience 'consults' itself when, for example, instead of tasting an expected flavour, one is surprised by an unexpected one. There is neither logical mediation nor interpretation involved in this foreshadowing. Retention leads into and feeds anticipation. Anticipation, in turn, rests on and drives off from retention.

⁷² Consider the following thought experiment: upon reading the letters 'e', 'el', 'ele', 'eleph', 'elephant' in succession, we start with an undifferentiated (flat) attractor landscape where a single letter could become anything but, as information builds up, as in 'ele', the phase space gets more and more differentiated (unflattened) until we end up with a single basin of attraction, that of the 'elephant'. Hide and seek works the same way. If we see an object consistently hidden in a single place instead of two places, the attractor landscape gets rearranged to bear a single basin. It is arguably for the same reason that typefaces (fonts) are recognisable despite there being a great variety of them.

nervous system, otherwise the system would never be able to handle the complexity and novelty of the ever changing environment including the non-organic, artificial and technological environments. Its activity is dominated more by experience than by stimuli. It is for this reason that meta-stable affordances of the environment are sought out and detected so as to help coordinate behaviour. Faced with the same tasks and problems over a developmental life-cycle, certain patterns are going to be 'hard-wired' to help the animal cope with the environment. But it would be a mistake to decompose the task of action-coordination into purely internal neural circuitry. The affordance theory recognises how animals use *both* internal and external means of coordinating behaviour. Rather than being a raw mechanical instruction, the perceptual stimulus helps 'select' or 'trigger' useful patterns of neural activity from intrinsic variability. But for a burst to occur in the first place, the neurons of the assembly and the activity must be 'primed' to respond. This is how Freeman outlines the general dynamics of perception:

The brain seeks information, mainly by directing an individual to look, listen and sniff. The search results from self-organizing activity in the limbic system [...], which funnels a search command to the motor systems. As the motor command is transmitted, the limbic system issues what is called a reafference message, alerting all the sensory systems to prepare to respond to new information. And respond they do, with every neuron in a given region participating in a collective activity - a burst. Synchronous activity in each system is then transmitted back to the limbic system, where it combines with similarly generated output from other sensory systems to form a gestalt. Then, within a fraction of a second, another search for information is demanded, and the sensory systems are prepared again by reafference. Consciousness may well be the subjective experience of this recursive process of motor command, reafference and perception. If so, it enables the brain to plan and prepare for each subsequent action on the basis of past action, sensory input and perceptual synthesis. In short, *an act of perception is not the copying of an incoming stimulus. It is a step in a trajectory by which brains grow, reorganize themselves and reach into their environment to change it to their own advantage.*⁷³
[emphasis added]

Neural networks thus operate exclusively with pattern recognition and pattern completion. They do not store explicit representations but only a pattern of strengths in their synapses. When stimulated, the pattern is capable of recreating the original pattern of excitation. Whenever a percept becomes 'meaningful' in

⁷³ See: Walter Freeman, "The Physiology of Perception" in *Scientific American* (Vol. 264 (2), 1991), pp. 78-85.

some way, another attractor is added triggering a slight modification in all the others.⁷⁴ In other words, attractors become reference points around which the rest of the system organises its activity. So neural networks can best be said to be *trained* rather than programmed.⁷⁵ This means that what is stored are not sensations but their 'means of production', which may thus legitimately be referred to as 'content-retrievable memory' and not snapshots (stored representations).⁷⁶ On the contrary, if we continue to rely on the model of 'filling the bucket' first and then looking for a mysterious correlation between its content and the 'outer' world, we will simply perpetuate what Gilbert Ryle called the 'two worlds myth'.⁷⁷ Hence Gibson:

Moving from place to place is supposed to be 'physical' whereas perceiving is supposed to be 'mental', but this dichotomy is misleading. Locomotion is guided by visual perception. Not only does it depend on perception but perception depends on locomotion inasmuch as a moving point of observation is necessary for any adequate acquaintance with the environment. So we must perceive in order to move, but we must also move in order to perceive.⁷⁸

Having sensations does not amount to perceiving. The useful dimensions of sensitivity are those that specify the environment and the observer's relation to the environment. There is thus invariance of *perception* with varying *sensation*.

⁷⁴ The basic process of change in a self organising system first involves 'destabilising' the existing attractors which hold the system in its present state, and then introducing or activating a new attractor that will alter the 'landscape' of the system. In self organisation theory, the resulting change in the landscape is considered to be produced or 'unveiled' through the process of 'iteration'. E.g.: a deep and narrow basin for a state that is intense but not experienced very often, and a shallow and wide basin for a state that is experienced frequently but which is not very intense.

⁷⁵ However, rather than being robotically controlled by external 'stimuli' which produce mindless reflexive reactions (as in the models of Pavlov, Skinner and the Behaviourists), self organising systems organise their own behaviour in relation to certain focal points in their environment.

⁷⁶ See: Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Putnam Publishing, 1994), pp. 102, 104. "What dispositional representations hold in store in their little commune of synapses is not a picture per se, but a means to reconstruct a 'picture'. [...] What I am calling a dispositional representation is a dormant firing potentiality which comes to life when neurons fire, a particular pattern, at certain rates, for a certain amount of time, and toward a particular target which happens to be another ensemble of neurons [...] the firing patterns result from the strengthening or weakening of synapses. Knowledge is embodied in dispositional representations."

⁷⁷ See: Gilbert Ryle, *The Concept of Mind* (London: Routledge, [1949] 2009), p. 23. The introduction to the 2000 edition was written by Ryle's student Daniel C. Dennett.

⁷⁸ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 223.

This is to say that senses are necessary for perceptions but sensations are not. An infant does not have to learn to convert sensations into perception. In order to avoid confusion altogether it is suggested that a new term be used to refer to the senses, namely, the *aesthetic system*.

- 079 **Sense** Experience is thus a single plane of immanence that fully integrates both subject and object, or as the radical empiricist William James would have it, "There is no knower and known; there is only experience." Consequently, Truth and Falsity cannot be considered as values that exist *outside* the constitutive problematic fields which endow them with sense. They exist only with the Problem. This also marks the difference between the detached interpretation and the hands-on intervention. Consider Bateson's example of a man felling a tree with an axe. An average Westerner would say "I cut down the tree" strongly believing that there is a delimited agent (self) which performed a 'purposive' action upon a delimited object. What he fails to apprehend is the whole:

Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. *This self-corrective (i.e., mental) process is brought about by a total system, tree-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind.* More correctly, we should spell the matter out as: (differences in tree) - (differences in retina) - (differences in brain) - (differences in muscles) - (differences in movement of axe) - (differences in tree), etc. What is transmitted around the circuit is transforms of differences. And, as noted above, a difference which makes a difference is an idea or unit of information.⁷⁹ [emphasis added]

The Proustian apprenticeship in semantics taught us that there are two ways to miss the sense of a sign: objectivism and subjectivism. The former characterises the belief that sense can be found in the object emitting the sign, while the latter finds sense within, in 'chains of association'. In contrast to phenomenology where the problem of construction of signs becomes a problem of 'bestowal of meaning (*Sinn*)', in Deleuze's account it is *sense* that is productive of signs and their meanings.⁸⁰ This distinction between *sense* and *meaning* is not purely academic

⁷⁹ See: Gregory Bateson, "The Cybernetics of 'Self': A Theory of Alcoholism" in *Psychiatry* (Vol. 34, No. 1, 1971), pp. 1-18. For a similar 'navigational' approach see another influential cyberneticist Heinz von Foerster, *Die Wahrheit ist die Erfindung eines Lügners* (Heidelberg, 1998). "What does a pilot do when he wants to manoeuvre his ship toward a port? He does not follow a predetermined program but instead modifies it constantly. [...] At every moment, the deviation must be corrected. [...]"

⁸⁰ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1964] 2007). See also: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York:

nitpicking, as Colebrook cautions: "Sense is that orientation or potential that allows for the genesis of bodies but that always, if extended, would destroy the bordered organism."⁸¹ The life form itself becomes an image among other images. This special image - Bergsonian 'center of indetermination' - acts as a filter creatively selecting images from the universal flux (hence Deleuzian percept/essence). In the words of Deleuze:

The Thing and the perception of the thing are one and the same thing, one and the same image, but related to one or other of two systems of reference. The thing is the image as it is in itself, as it is related to all other images to whose action it completely submits and on which it reacts immediately. But the perception of the thing is the same image related to another special image which frames it, and which only retains a partial action from it, and only reacts to it mediately. In perception thus defined, there is never anything else or anything more than there is in the thing: on the contrary, there is 'less' [perception of perception]. We perceive the thing, minus that which does not interest us as a function of our needs.⁸²

Our ability to distinguish the essential from the inessential is at the basis of this zeroing in. According to Antonio Damasio, the 'sterile' combinations do not even present themselves.⁸³ However, on no account does this mean that we look on and grasp a specific aspect of the world or environment as detached and fully formed beings: "[A] being is what it is because it is *already* an expression of every aspect of the whole. [...] Organisms are possible because they concretely embody potentialities - the power to eat, to see, to move, to think - that could have been actualized differently, *and* that can even be *counter-actualized*."⁸⁴ According to Colebrook, a (fully) bounded organism is but an organicist fantasy.

Continuum [1980] 2004), p. 124. "If we call the signifying semiotic system semiology, then semiology is only one regime of signs among others, and not the most important one."

⁸¹ See: Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010), p. 37. See also: Gilles Deleuze, "Proust Round Table" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 59. "Proust always defines the world of violence as part of the world of signals and signs. Every signal, no matter what it is, does violence."

⁸² Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 63. "[T]he same evolution which organises matter into solids will organise the image in more and more elaborate perception [...]."

⁸³ See: Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Putnam Publishing, 1994), p. 180.

⁸⁴ See: Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010), pp. 84, 110.

So is bounded architecture, and that is why it would make more sense to treat it as a (semi-permeable) membrane(s).⁸⁵

4.2 Movement Image

080 **Modes of Sensation** The present thesis is an attempt to extend the Peircean logic *qua* Deleuze in order to situate the Gibsonian approach to perception. We tend to think of the visual content of an image either as a representation of the object's form or, beyond this naïve approach, as an acquired cultural code enabling us to recognise percepts as referencing objective forms. However, neither of these approaches to image-content works in terms of architecture because of their undermining or overmining nature. According to Massumi, it is movement and not message that is the actual content of architecture.⁸⁶ Gibson is explicit:

[T]he visual world is a kind of experience that *does not correspond to anything*, not any possible picture, not any motion picture, and not even any 'panoramic' motion picture. The visual world is not a *projection* of the ecological world. How could it be? The visual world is the outcome of the picking up of invariant information in an ambient optic array by an exploring visual system, and the awareness of the observer's own body in the world is a part of the experience.⁸⁷

It is this attitude that makes Gibson a dynamist. The temporal or sequential order becomes a dynamic dimension of (micro) stimulation.⁸⁸ Where the dualist ascribes the intelligibility of the world to the word, Gibson places the emphasis on the world itself. Similarly, Peirce's (asignifying) signs are modes of sensation and as such have not been recruited from an overarching system or meta-language. His triad of Firstness, Secondness and Thirdness, which helped Deleuze differentiate between the Perception-Image, Action-Image and Affection-Image, is matched against Gibson's triad of the Ambient Optic Array,

⁸⁵ See: Georges Teyssot, "Architecture as Membrane" in *Explorations in Architecture*, ed. Reto Geiser (Basel: Birkhäuser, 2008), p. 166.

⁸⁶ Brian Massumi, "Building Experience; The Architecture of Perception" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), pp. 322-331.

⁸⁷ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 207.

⁸⁸ For Maimon as for Leibniz, according to Deleuze, reciprocal determination of differentials does not refer to a divine understanding, but to tiny perceptions as representatives of the world in the finite self: "the relation with infinite understanding devolves from it, and not the inverse." See: Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 102.

Occlusion and Affordance.⁸⁹ [Table xxxvi] The 'threesome triad' is an attempt to supplant psychologism with what Marc Rölli calls transcendental psychology of perception, "comprehending both the differential and subrepresentative relations of intensity and the process of becoming which are presupposed by every objectively oriented perception."⁹⁰ According to Deleuze, Peirce is the philosopher who took the systematic classification of images further than anyone. What interests us in particular is the relationship between the sign and image. For Deleuze it is clear that the image gives rise to signs and that a sign appears to be a particular twofold image depending on whether we approach it from the point of view of its actual composition or its virtual genesis. It is for this reason that they do not coincide.⁹¹

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Peirce	FIRSTNESS <i>quality</i>	SECONDNESS <i>struggle</i>	THIRDNESS <i>relation</i>
Deleuze	Perception image	Action image	Affection image
Gibson	Ambient Optic Array	Occlusion Invariant	Affordance Invariant of Invariants Topology
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xxxvi **Asignifying Signs:** *Perception-image is at one end of the interval, the action-image at the other end and the affection-image in the interval itself.*⁹² (G. Deleuze, 1985)

⁸⁹ Deleuze gives us a typology of images that align with Bergson's categories. "Situations present essences (*perception-images*), which give rise to actions (*action-images*), while the interval (*affection-images*) marks the moment between the perception and action. Strung together, images are linked by regular patterns of action (movement) [...]" See: Gregory Flaxman, *The Brain is the Screen: Deleuze and the Philosophy of Cinema* (Minneapolis: Minnesota UP, 2000), p.101.

⁹⁰ See: Marc Rölli, "Deleuze on Intensity Differentials and the Being of the Sensible" in *Deleuze Studies* (Vol. 3, 2009), pp. 26-53. "Exclusive attention to actual and extensive givens implies disregard for precursory genetic synthesis and their characteristic relations of intensity."

⁹¹ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 69.

⁹² See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 28. See also: Charles S. Peirce, *Collected Papers of Charles Sanders Peirce: the electronic edition 1994*, reproducing Vols. I-VI ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard UP, 1931-1935), Peirce: CP 1.300 Cross-Ref: †† Chapter 2.

In *The Greatest Irish Film* (1986), a precursor to *The reverse proof: how to extinguish the three varieties (Cinema 1)*, Deleuze discusses three sorts of images employed in films.⁹³ They determine the ways in which an *action*, a *perception* or a *self* are perceived. For Deleuze, "each one of us, the special image or the contingent centre, is nothing but an assemblage of [those] three images."⁹⁴ Beneath them is the "movement-image as it is in itself in its acentered purity," that is, an image which exists in a presignifying realm.⁹⁵ Beneath them is Zeroness.⁹⁶ When the three images are 'exhausted', what remains is the *movement image* which has not been either 'cut into', captured or organised. Stripped of all human significance, there remains "the luminous plane of immanence." In the subsequent *The Exhausted [L'Épuisé]* (1992), Deleuze attempts to confront Beckett's forcing of his fictional characters to "play with the possible [virtual] without realising it."⁹⁷ Hence the *reverse proof*, whereby exhaustion refers to the extinguishing of the image and ultimately results in the desired (non-correlationist) 'ridding ourselves of ourselves'.⁹⁸ It is important to note the difference that Deleuze makes between being tired [*le fatigué*] and being exhausted [*l'épuisé*]: "The tired person can no longer realize, but the exhausted person can no longer possibilize."⁹⁹ Realising the possible always requires an *a priori* plan: this rather than that. It is a realm of chance and it proceeds through *exclusion*: for dice-rolling it is 1/6 (1/6+1/6+1/6+1/6+1/6+1/6=1). Exhaustion is something completely different. It does not refer to what happens as opposed to what does not (probability). Instead, not only does it exhaust possibility (retroactive hypostatization of the real), but also the spectrum of what happens in what happened (the *loaded* dice, as Meillassoux would have called it). We arrive at the virtual whose disjunction is *inclusive*, "everything divides, but into itself."

"Instead of the familiar division of [...] Kant which makes pleasure-pain, cognition, and volition the three categories of mental phenomena, we have feeling or quality, the action of opposition, and synthetic thought."

⁹³ Gilles Deleuze, "The Greatest Irish Film (Beckett's 'Film')" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), pp. 23-27.

⁹⁴ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 66.

⁹⁵ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 66.

⁹⁶ Deleuze's addition to Peirce's classification scheme. See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 30.

⁹⁷ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 153.

⁹⁸ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 66.

⁹⁹ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 152.

Given that broadly speaking language is tethered to the exclusive logic of possibility, it becomes the prime target for Deleuze. In Beckett, he identifies three types of meta-language which are mapped onto particular kinds of exhaustion. *Language I* is the "atomic, disjunctive, cut and chopped language [...] in which enumeration replaces propositions and combinatorial relations replace syntactic relations: a language of names."¹⁰⁰ *Language II* comes into being as a consequence of language I, from the realisation that "if one thereby hopes to exhaust the possible with words, one must also hope to exhaust the words themselves."¹⁰¹ Language II is thus no longer that of names, but of voices, "that no longer operates with combinable atoms but with blendable flows. Voices are waves or flows that direct and distribute linguistic corpuscles."¹⁰² Finally, *Language III*, "no longer relates language to enumerable and combinable objects, nor to transmitting voices, but to immanent limits that are ceaselessly displaced - hiatuses, holes, or tears that we would never notice, or would attribute to mere tiredness, if they did not suddenly widen in such a way as to receive something from the outside or from elsewhere."¹⁰³ The attempt is to reach a pure image, free of first and second languages, which is beyond signification and as such opens the realm of virtuality. The image thus becomes not an object but a process, an unveiling of the power of an object which refuses to treat the object as an object submitted to human understanding. [Table xxxvii] The Beckett scholar and writer Brian Evenson explains: "[W]e might split Language III into two parts. That which, through the pure, stripped image, exhausts the possibilities of the image; and that which, through movement exhausts the possibility of space."¹⁰⁴ Just as *image* appears as a visual (or aural) *ritornello* to the one who makes it, *space* appears as a motor *ritornello* to the one who moves. Ultimately by exhausting things, voices, space and image we arrive at the mutual realm of pure intensities,

¹⁰⁰ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 156. "[I]n which the relations between objects are identical to the relations between words; and consequently, words must no longer give a realization to the possible, but must themselves give the possible a reality proper to it [...]"

¹⁰¹ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 156.

¹⁰² Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 156.

¹⁰³ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 158.

¹⁰⁴ Brian Evenson, "Review of Gilles Deleuze's 'L'épuisé'" in *Journal of Beckett's Studies; Special Issue: Beckett in France*, ed. Thomas Cousineau (Vol. 4, No. 1, Autumn 1994), pp. 169-178. "Deleuze [...] shows that the television plays are doing something which none of Beckett's other work can do to such an extent. It is not just a 'more congenial metaphor' for what Beckett has tried to do in all his work, but a shift in the type of exhaustion. The type of exhaustion that occurs in the television plays is an exhaustion of the image - a different project than the type of exhaustion at work in most of his other texts."

a true purpose of exhaustion. What we witness yet again is a process with a symmetry-breaking sequence, albeit in reverse (symmetry-gaining). In the first step we abandon the realm of words (imagination sullied by reason), in the second we dispense with sounds (imagination sullied by memory) only to finally - in the third step - exhaust the image altogether to arrive at (the symmetrical yet intensive) any-space-whatever.¹⁰⁵ This is the proto-theory of *Time-Image*, a leap towards the post-human paradigm *par excellence*.¹⁰⁶ It is crucial to note that any-space-whatever is *not* the sum total of all possibility, for that would be totalising. Instead, Deleuze is interested in whether one can imagine a different whole "that holds everything together" without falling either into the undifferentiated or into the famous unity of contradictories, "It is extremely difficult to make a pure and unsullied image, one that is nothing but an image, by reaching the point where it emerges in all its singularity, retaining nothing of the personal or the rational, and by ascending to the indefinite as if into a celestial state."¹⁰⁷

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Apperception	MENTAL	PHYSICAL
Perception	PRE-INDIVIDUAL	PRE-EXTENSIVE
	image	movement
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xxxvii **Ideal vs. Real:** *Ideal conditions of epistemological probability (Kant) vs. Real conditions of ontological actuality (Deleuze); or Empirico-transcendental parallelism (active synthesis of apperception) vs. Continuity of thought and matter (passive synthesis).*

For our purposes, however, we will trace the opposite - sense-making - cascade: "from the world before man, before our own dawn, the position where movement was, on the contrary, under the regime of universal variation, and where light, always propagating itself, had no need to be revealed."¹⁰⁸ It is from this luminous plane of immanence, the plane of matter and its cosmic eddying of Movement-Images (the BwO) that the three varieties emanate (a BwO). It is erroneous to

¹⁰⁵ Deleuze states that with the emergence of a modern cinema the closed representational circuit of cinematic images is broken. The status of cinematic space changes, "purely optical or sound situations become established in what we call 'any-space-whatever,' whether disconnected or emptied." See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 5.

¹⁰⁶ Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989).

¹⁰⁷ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 158.

¹⁰⁸ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 68.

account for the concrete experience by replacing the discrete for the abstract.¹⁰⁹ Quite the opposite, the 'lived experience' is abstract. It is from these premises that we revisit Gibson's legacy. Already in his *Senses Considered* (1966) Gibson dismissed the linguisticity of experience:

The language code is cultural, traditional, and arbitrary; the connection between stimuli and their source is not. In this book [*Senses Considered*], a distinction will be made between perceptual cognition, or knowledge of the environment, and symbolic cognition, or knowledge *about* the environment. The former is a direct response to things based on stimulus information; the latter is an indirect response to things based on stimulus sources produced by another human individual. The information in the latter case is coded; in the former case it cannot properly be called that.¹¹⁰

Gibson's theory of perception could indeed be said to be an elaboration of the three *images* of Deleuze that are traceable back to the 'mother movement image'. [Table xxxviii] A lot has been written about his most prominent concept of *affordances* (Af), but we suggest that this 'perception of self by self' is inseparable from the 'perception of perception' of *ambient optic array* (AoA), and the 'perception of action' of *occlusion* (Oc). Therefore, there is not merely AoA, Oc, Af, but AoA, Oc in Oc and AoA, Oc, Af in Af. This is especially pertinent to architecture considering that its actual content is movement. In view of architecture's alliance with cinema, close attention should be paid to Deleuze's discussion of Eisenstein, himself a trained architect.¹¹¹

A film is never made up of a single kind of image. [...] These three kinds of spatially determined shots can be made to correspond to these three kinds of varieties: the long shot would be primarily a perception-image; the medium shot an action-image; the close-up an affection-image. But, at the same time, according to one of Eisenstein's instructions, each of these movement-images is a point of view on the whole of the film, a way of grasping this whole, which becomes affective in the close-up, active in the medium shot, perceptive in the

¹⁰⁹ See: Gilles Deleuze, *Cours Vincennes*; "Kant, Synthesis and Time" (March 14, 1978), <http://www.webdeleuze.com/php/texte.php?cle=66&groupe=Kant&langue=2> (accessed May 25, 2011). "There is the concrete and the opposite of the concrete. The true opposite of the concrete is not the abstract but the discrete. Discretion is the moment of thought."

¹¹⁰ See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 91.

¹¹¹ Regardless of the difference between architecture and cinema in the 'cinematic illusion' as explained by Deleuze: For *natural* perception the illusion is corrected 'above' perception by the conditions which make perception possible in the subject, while in the *cinema* the illusion is corrected at the same time as the image appears for a spectator without conditions.

long-shot - each of these shots ceasing to be spatial in order to become itself a 'reading' of the whole film.¹¹²

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PERCEPTION-IMAGE (the thing): *Dicisign*: term created by Peirce in order to designate principally the sign of the proposition in general. It is used herein relation to the special case of the 'free indirect proposition' (Pasolini). It is a perception in the *frame* of another perception. This is the status of solid, geometric and physical perception. *Reume*: [...] It is the perception of that which crosses the frame or flows out. The liquid status of perception itself. *Gramme (engramme or photogramme)*: [...] It is the genetic element of the perception-image, inseparable as such from certain dynamisms (immobilisation, vibration, flickering, sweep, repetition, acceleration, deceleration, etc.). The gaseous state of a molecular perception.

AFFECTION-IMAGE (quality or power): *Icon*: used by Peirce in order to designate a sign which refers to its object by internal characteristics (resemblance). Used here in order to designate the affect as *expressed* by a Face, or a facial equivalent. *Qualisign (or potisign)*: term used by Peirce in order to designate a quality which is a sign. Used here to designate the affect as expressed (or exposed) in an *any-space-whatever*. An any-space-whatever is sometimes an emptied space, sometimes a space the linking up of whose parts is not immutable or fixed. *Dividual*: that which is neither indivisible nor divisible, but is divided (or brought together) by changing qualitatively. This is the state of the entity, that is to say of that which is expressed in an expression.

ACTION-IMAGE (the force or act): *Synsign (or encompaser)*: [...] Set of qualities and powers as actualised in a state of things, thus constituting a real milieu around a centre, a situation in relation to a subject: spiral. *Impression*: internal link between situation and action. *Index*: used by Peirce in order to designate a sign which refers to its object by a material link. Used here in order to designate the link of an action (or of an effect of action) to a situation which is not given, but merely inferred, or which remains equivocal and reversible. We distinguish in this sense *indices of lack* and *indices of equivocity*: the two senses of the French word *ellipse* (ellipse and ellipsis). *Vector (or line of the universe)*: broken line which brings together singular points or remarkable moments at the peak of their intensity. Vectorial space is distinguished from encompassing space.

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xxxviii **Glossary from Cinema 1: An Extract.**¹¹³ (G. Deleuze, 1983)

¹¹² See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 70. Cf. Eisenstein, *Au-delà des Étoiles*, 'En gros plan', p. 263, ff. "It is true that, reading the text literally, Eisenstein considers the close-up as a point of view which is not exactly affective, but 'professional', on the whole of the film; this is however a 'passional' point of view, which penetrates 'to the innermost being of what is happening'."

The question for architects and architecture is not whether it is possible to play with the virtual without realising it. Architecture remains 'unrealised' by default because we never know what it can do. Modern architecture was based on deterministic coincidence between sign and image. But we have grown tired of repeating how potentiality is not an exhaustive anticipation of all possible changes. Architecture creates margin-excess capacity that enables different and even opposite interpretations and uses that become plausible "on the condition that one renounces any order of preference, any organization in relation to goal, any signification."¹¹⁴ So, the pertinent question is how to account for the fundamental discovery made by the founder of semiology Peirce that *image and sign do not coincide?*¹¹⁵ This is the central question that the dissertation addresses.

4.2.1 I/III: Ambient Optic Array

081 **Disqualifying Qualia** Firstness is Peirce's way of disqualifying *qualia*.¹¹⁶ It is something that only refers to itself; quality or power, pure possibility. An example Peirce frequently uses is the red that we find identical to itself in the proposition such as "You have not put on your red dress."¹¹⁷ In Deleuze, when related to a 'centre of indetermination' it becomes the Perception-Image.¹¹⁸ "The

¹¹³ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), pp. 217-218.

¹¹⁴ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 153.

¹¹⁵ "It is clear that the image gives rise to sign. [A] a sign appears to be a particular image which represents a type of image, sometimes from the point of view of its composition, sometimes from the point of view of its genesis or its formation." See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 69.

¹¹⁶ The primary/secondary quality distinction is a conceptual distinction in epistemology and metaphysics and concerns the nature of reality. It is most explicitly articulated by John Locke in *An Essay Concerning Human Understanding*, but earlier thinkers such as Galileo and Descartes made similar distinctions. Primary qualities are thought to be properties that objects have which are independent of any observer, such as solidity, extension, motion, number and figure. These characteristics convey 'facts'. They exist in the thing itself, can be determined with certainty, and do not rely on subjective judgments. Secondary qualities (*qualia*) are properties that allegedly produce sensations in observers, such as colour, taste, smell, and sound. To put it simply, primary qualities are supposedly measurable aspects of physical reality while secondary qualities are 'subjective'.

¹¹⁷ See: Charles Sanders Peirce, "What Pragmatism Is" in *The Monist* (Vol. 15, No. 2, April 1905), pp. 161-181. "Red is relative to sight, but the fact that this or that is in that relation to vision that we call being red is not *itself* relative to sight; it is a real fact."

¹¹⁸ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 64.

centre of indetermination within an acentered universe" is Bergson's term for the body in his theory of perception. As we have seen, in Bergson's account the body functions as a kind of filter (sieve) that, according to its own embodied capacities, selects precisely the images that are relevant to it from among a universe of images circulating around it. The starting point for the conventional theory of perception is the retinal image. More precisely, it is supposedly the stimulation of the retina by light that provides information for visual perception. In stark contrast, the starting point for Gibson is the Ambient Optic Array. It is an *array* because the variation of intensities produces a differential. In other words, it is the *structure* in the light extended over space and time (we ought to call it *structuring*) that provides direct information about the media, surfaces, substances, and events for a *potential* observer. On this account, perceptual information is intrinsic to the environment and not the mind. It has a unique structure for every station point in the world.¹¹⁹ According to Gibson, "if you assume that one has to see light, to have sensations of light, before one can see differences by means of light, you are in danger of falling into the pit of believing that there are no real surfaces in the world. This is a philosophical trap. Of course, there are surfaces!"¹²⁰ For Gibson, distance is a dimension, not *between* surfaces, but *across* surfaces. The crucial point made by Gibson is that many of the so-called secondary qualities (qualia) are indeed *real* properties of our environment.¹²¹ The structures available in ambient energy are related to such environmental properties and events in a *lawful* way - they uniquely specify them.¹²² In the words of Gibson:

Ecological optics does not have to be concerned with the problem of waves or particles nor with the laws of refraction, reflection, and diffraction. It is primarily concerned with margins, borders, contrasts, ratios, differences, and textures in the array.¹²³

¹¹⁹ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 63.

¹²⁰ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 101.

¹²¹ A.P. Costal, "Are Theories of Perception Necessary? A Review of Gibson's the Ecological Approach to Visual Perception" in *Journal of the Experimental Analysis of Behavior* (Vo. 41, No. 1, January 1984), p. 113.

¹²² Gibson's effort to deny the metaphysical basis of the distinction between primary and secondary qualities, far from being an obstinate attempt to deny the very existence and successes of science, was a considered effort towards determining its proper empirical basis.

¹²³ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 66.

The concept of the array can be generalised to include other 'vehicles of structure' from acoustic to olfactory, to haptic, to gustatory.¹²⁴ All the organism needs to do is detect these informative structures (by tuning in) and all that perceptual theory has to do in turn is explain *what* these structures are and *how* they are 'picked-up': "The theory of psychophysical parallelism that assumes that the dimensions of consciousness are in correspondence with the dimensions of physics and that the equations of such correspondence can be established is an expression of Cartesian dualism. Perceivers are not aware of the dimensions of physics [...] They are aware of the dimensions of the information in the flowing array of stimulation that are relevant to their lives."¹²⁵ As the Gibsonian Thomas Lombardo puts it, the perceiver is sensitive to the *ordinal* retinal image and not the anatomical one.¹²⁶ As ordering always comes before counting, the exploration of the ambient optic array is possible precisely insofar as its structure constitutes "a *global* stimulus, rather than *punctuate* stimulus."¹²⁷ Such an ecological conception of structure is thus dynamic through and through.¹²⁸

082 **Ecological Triad** Gibson explicitly bases the new paradigm on his description of the environment and definition of perceiving. According to Lombardo, instead of "How do things look?" Gibson turned his attention to "What is there to see?". This way he replaced the physical dyad of matter and energy with the ecological triad of media, substances and surfaces (to be perceived). [Table xxxix] Information as conceived here is both information *about* and information *for*.¹²⁹ The new concept of perception thus involves the complementarity of perception and proprioception, that is, perceiving and proprioceiving. The new description of the environment is meant to target the mesoscale. The medium is the least

¹²⁴ See: William M. Mace, "James J. Gibson's Strategy for Perceiving: Ask Not What's Inside Your Head, but What Your Head's Inside of" in *Perceiving, acting and knowing; Toward an ecological psychology*, ed. Robert Shaw and John Bransford, (Hillsdale, NJ: L. Erlbaum Associates, 1977), pp. 52-53.

¹²⁵ This is 'information' in Gibson's terms. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 306.

¹²⁶ Thomas J. Lombardo, *The Reciprocity of Perceiver and Environment: The Evolution of James. J. Gibson's Ecological Psychology* (Hillsdale, NJ: L. Erlbaum Associates, 1987), p. 144.

¹²⁷ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (L. Erlbaum, 1982), p. 64.

¹²⁸ See: Michael James Braund, "The Structures of Perception: An Ecological Perspective" in *Kritike* (Vol. 2. No. 2, June 2008), pp. 123-144.

¹²⁹ See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), pp. 37, 38. "[A] failure to consider both parts of information - information *about* an environment *for* an animal - is to miss the very essence of the concept of information."

substantial and provides for the possibility of locomotion. Its physical analogue is air, not water. The substance is, from this point of view, the least relevant as it literally stays inaccessible. By contrast, the surface becomes the most relevant as an interface or separator between the medium and substance. It affords 'supportability'.¹³⁰ This has been systematically overlooked by the tradition.

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PHYSICS	ECOLOGY
matter	media surfaces substances
<i>space/time</i>	<i>persistence/change</i>
+++++	

xxxix

Physicalism vs. Environmentalism: *The ecological psychology view of the world is at once simple and profoundly complex. While most of the representationalists (indirect perception) assume that the quintessential problem for visual perception is turning meaningless data into meaningful perceptions (nothing less than the mind/body problem applied to visual science), the proponents of direct perception insist that - under normal circumstances - the immediate terrestrial environment is differentiated and highly organized. The differential structure of the ambient energy fields surrounding an organism is informationally rich insofar as it contains information specific to affordances.*

The geographer Yi-Fu Tuan makes a similar observation: "So much of life occurs at the surface that, as students of the human scene, we are obliged to pay far more attention to its character (subtlety, variety, and density) than we have done. The scholar's neglect and suspicion of surface phenomena is a consequence of a dichotomy in Western thought between surface and depth, sensory appreciation

¹³⁰ "If we look at the ground on the timescale of millions of years, the ground is but a ceaseless flow of energy, ever shifting and changing. On the ecological timescale, however, the ground is stratified, ossified, and stabilized. And since our perceptual systems are tuned into this ecological scale, we do not perceive the molecular flux of the ambient energy fields. The ground is perceived as a continuous rigid surface with the property of "supportability". This is an affordance-property. The detection of such properties by the nervous system is highly useful. We can expect that evolved systems would be optimally tuned to detect these properties because they are facts about the environment most relevant to survival." See: Garry Williams, "On the Direct Perception of a Property." <http://philosophyandpsychology.com/?tag=indirect-representationalism> (accessed May 25, 2011).

and intellectual understanding, with bias against the first of the two terms."¹³¹ Gibson makes it very clear: medium is where animals live and substance is where they do not live. Surely, solids can have different degrees of substantiality but the less substantial they become the more they approach the quality of the medium. The point is that, unless the medium is filled with light (illumination), it cannot be reflected from the surfaces in such a way as to specify them. As opposed to the 'mirror reflection' of geometric optics, rough surfaces of ecological optics scatter the reflection of light (the level of 'filling' is different for different media: water, glass, air). In the *ambient* light, the emphasis is on a point in the medium rather than the source of radiation. In other words, the physical level is taken for granted. It is necessary but not sufficient to define perception. The ambient light is an outcome of an acquired steady state resulting from reverberating radiation of light in a semi-enclosed space, or what Gibson calls the medium. To put it simply, the light is reflected back and forth - either between the walls of the interior or the sky and the earth - until it reaches a steady state.¹³²

A case of reversed engineering from the domain of computer graphics is once again most revealing. Kittler compares two competing methods of light calculations: *raytracing* and *radiosity*.¹³³ The former treats the problem at the level of (individual) rays and the latter in a more holistic manner of surface reflection. The result produced by radiosity turns out to be more 'realistic', a finding which should not come as a surprise to a Gibsonian. An analogy can be made with two painterly notions of light: the (divine) luminous rays or *lux*, and the perceived *lumen*.¹³⁴ In any case, the environment contains an infinite number of *potential* points of observation, some of which happen to be occupied by observers with eyes and others not. It is crucial that any observer or any number of observers can position their eyes at one of these points of observation and see,

¹³¹ Yi-Fu Tuan, "Surface Phenomena and Aesthetic Experience" in *Annals of the Association of American Geographers* (Vol. 79, No. 2, June 1989), pp. 233-241.

¹³² These are the four steps as described by Gibson: 1) Directional radiation from the sun (direction variable with time of day); 2) Scattering of the sun's rays by particles in the atmosphere (amount variable with atmospheric conditions); 3) Scatter reflection of the sun's rays by the rough surface of the earth; 4) Diffuse illumination of the medium with omnidirectional light (intensity variable with time of day). See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 49.

¹³³ Friedrich A. Kittler, "Computer Graphics; A Semi-Technical Introduction" in *Grey Room* (No. 2, Winter 2001), pp. 30-45.

¹³⁴ See: Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago: University of Chicago, 1983). Similar distinction of sensibility between European North and South can be found in Gombrich, in his distinction between terms *lumen* and *lustrum* (Alberti vs. Jan van Eyck). *Lumen* is the light we need to read the form, while *lustrum* is a (re)flexion which delivers information about the texture. See: Ernst Gombrich, *The Heritage of Apelles: Studies in the Art of the Renaissance* (Ithaca, NY: Cornell UP, 1976).

regardless of the particular architecture of the eye. What Gibson meant is that the same applies even to insects which, in contrast to vertebrates, do not have 'camera eyes' (with lenses). In its description of the environment, ecology - unlike physics - assumes a reciprocity between the observer and the environment which surrounds them. The potential observer entails, requires and implies an environment.

083 **Visual Solid Angles** The ambient light must always have a structure at the point of observation. If the structure does not consist of hypothetical rays, as in physics, it consists of what Gibson calls 'visual solid angles'. Gibson does not dispute the existence of ambient optic rays since there has to be energy in the light to stimulate the photo-receptors in the eyes of organisms. However, this physical level of description is of a different order of magnitude from the one of ecology. Ecology is concerned with the relations in the light coming to a point. Gibson explains: the light coming *from* a point (the sun, lamp) is the *same* in all directions, it consists of waves or photons and has *no* structure. On the other hand, the light *to* a point is inevitably structured. [Table xl] The *Ganzfeld* experiments proved in no uncertain terms that, if the physical stimulus is undifferentiated, meaningful perception will fail to occur even though the visual system is being stimulated.¹³⁵

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PHYSICS	ECOLOGY
Source from a point CENTRIFUGAL	Discrimination to a point CENTRIPETAL
<i>radiant</i>	<i>ambient</i>
+++++	

xl

Ambient vs. Radiant Light: *Solid Visual Angle: Pattern of light reaching a point in space is determined by the nature of reflecting surfaces; Ambient light is taken with reference to an organism. Radiant light is taken with reference to the source of energy.*¹³⁶ (J.J. Gibson, 1966)

It is crucial that one always refers to a moving point of observation or a set of all points of observation. All animals, as distinguished from plants, are *animate*. By

¹³⁵ *Ganzfeld* (from the German meaning 'whole field'): experiments with homogeneous light (e.g. eyes covered with halves of table tennis balls) – the eyes cannot focus or form an image. This is proof that no perception occurs despite the availability of sensation.

¹³⁶ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 13.

moving around they connect points, as it were. The trajectory which is thus constituted is private but by virtue of being available to all (potentially) it is also public: "Although it is true that no two individuals can be at the same place at the same time, any individual can stand in all places, and all individuals can stand in the same place at different times. As far as the habitat has a persisting substantial layout, therefore, all its inhabitants have an equal opportunity to explore it. In this sense, the environment surrounds all observers in the same way that it surrounds a single observer."¹³⁷ The emphasis is on ambulatory vision. The leading Gibsonian scholar Edward Reed explains the significance of Gibson's conceptual leap: The belief in a private environment owes its force to the concept of *momentary* (snapshot) sensations. If that were true then indeed no two observers would have shared experience. But if experience is based on awareness over time, as Gibson proposed, than sharing the environment becomes possible.¹³⁸ The assumption of private perception and public knowledge (on the basis of a common language) is therefore mistaken. The act of perceiving involves a moving point of observation and the consequent continuous variation in the structure of the light as one moves around one's environment. What one 'picks up' in the process is information. On this point Gibson is quick to qualify that information is a 'dangerous word' as it is often associated with the theory of information (Shannon and Weaver).¹³⁹ He uses it in its original dictionary definition of *specification*. In other words, information about the living environment does not mean communication between 'sender' and 'receiver'. It means first and foremost information about substances and surfaces (of substances), including distances, shapes, inclinations and so on.¹⁴⁰ As already stressed, Gibson wants to retain the distinction between the receptor organ and the system for it is the latter that is anticipatory (prehension). The eye is an organ which is but a part of a perceptual system for detecting the invariant structure of ambient light.¹⁴¹ It responds not to individual stimuli, but to gradients of stimuli.

¹³⁷ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 43.

¹³⁸ See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 289.

¹³⁹ Gibson's theory of the available information in ambient light is radically different from the theory of information considered as signals, which is a mathematical theory founded by information theory (Shannon). Gibson would often anecdotally note that the world does not telegram the brain and the brain does not telegram the muscles.

¹⁴⁰ For an account of 'social distances' see: Edward T. Hall, *The Hidden Dimension; An anthropologist examines man's use of space in public and in private* (New York: Anchor Books, 1969).

¹⁴¹ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 13.

084 **Continuous Variation** In a sense, what Gibson proposes through his 'visual solid angles' is a kind of regression to the optics of Euclid and Ptolemy. Long before the retinal image was discovered these thinkers imagined the eye as the apex and the object perceived as the base of the so-called visual cone or pyramid.¹⁴² This 'natural perspective', as opposed to the 'artificial perspective' of Renaissance masters, remained unchallenged until the seventeenth century when the discovery of the retinal image gave rise to the fallacy of the 'camera eye'. According to Gibson, since then we have never fully recovered from retinalism.¹⁴³

By contrast, the visual solid angles that exist at any point are equally accessible for the human eye, the bee's eye, and the camera alike. These visual solid angles are nested within one another. There are big solid angles, such as the angle between the sky and the earth (180° above and 180° below), but also small ones (large surfaces) and smaller (little surfaces like trees) and smaller still (like faces) and the smallest (like texture). These visual solid angles are always at a moving point of observation so that all cross-sections of all the nested angles change their forms and sizes all the time. These changes are better described as transformations.¹⁴⁴ This has been overlooked by most traditional theories concerned with studying how animals and people manage under unnatural conditions, when animals are not only *disjoint* from their environment but also *constrained*: "The vast quantity of experimental research in the textbooks and handbooks is concerned with snapshot vision, fixed eye vision, or aperture vision, and it is not relevant."¹⁴⁵ It is not just irrelevant but also misleading. After spending years in a laboratory Gibson famously took his experiments outdoors.¹⁴⁶ The upshot of this was to tie action to perception: perception is important insofar as it affects action. To put it simply, we do not need to differentiate between

¹⁴² David C. Lindberg, *Theories of Vision from Al-Kindi to Kepler* (Chicago: University of Chicago, 1976).

¹⁴³ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 61. "An eye is *not* like a camera and, most fundamentally, it is unlike in that it registers continually, without film-replacement; moreover, moving an eye forward, or up or down, or sideways enhances the perception instead of spoiling the picture." Gibson's critique may be said to apply to an influential book by Jonathan Crary, *Techniques of the Observer: On vision and modernity in the nineteenth century* (Cambridge, MA: MIT Press, 1990).

¹⁴⁴ The applicability of the concept of transformations appears to have impressed Gibson considerably upon reading D'Arcy Thompson's *Growth and Form* (1942). See: Thomas J. Lombardo, *The Reciprocity of Perceiver and Environment: The Evolution of James. J. Gibson's Ecological Psychology* (Hillsdale, NJ: L. Erlbaum Associates, 1987), p. 189.

¹⁴⁵ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 3.

¹⁴⁶ Gibson's discovery during WW2 of the visual information a pilot needs to land an airplane has made him one of the few psychologists whose work has had applications of lasting value.

things unless it affects our action. Hence, the ecological approach does not concern itself with the physiological mechanism but rather focuses on the machinism of perception for action.¹⁴⁷ It proceeds from the problem of how an observer navigates the world. To paraphrase Whitehead, it takes an uncommon mind to undertake the study of the obvious.

There is nothing more obvious than the living environment and yet, save for a few exceptions, psychologists have not possessed minds uncommon enough to undertake the study. As a result, Gibson dropped all the simplistic accounts and arrived at some profoundly radical conclusions. One of them is his 'optic flow', a stream of 'visual input' caused by the movement of the observer which is indispensable for explaining the pilot's landing capacity, but also our navigating capacity in general.¹⁴⁸ Flow underpins locomotion, while non-flow is related to stasis. Outflow means approaching, while inflow indicates retreating. Vision, in general, is an important part of maintaining posture.¹⁴⁹ Transformations of the pattern specify layout, shape and movement, or as Turvey and Carello put it, "perceiving-acting is a circularly casual process involving: (a) forces giving rise to flows/forms/times, and (b) flows/forms/times constraining or giving rise to forces."¹⁵⁰ The traditional physics embraces (a) but not (b).

The most radical conclusion of Gibson's research is not that the forms are undergoing continuous variation but that they are being wiped out as one moves around. We find this to be especially pertinent to architecture. For example, if one goes around the corner - from one vista to another - one set of solid angles is replaced by another. It seems that the only hinge between the two is the completely reversible and regular process of transition itself. This is the gist of Gibson's theory of occlusion which depends on the invariants of a higher order

¹⁴⁷ The definition of the human as a rational animal is misleading not because the human is not rational but because, even if the human is rational, there need also be a series of non-rational contractions so that reason cannot have the upper hand or fully determine those 'incurvings of the universe'.

¹⁴⁸ The focus of expansion (FOE) is the point of touchdown. It remains constant as you move forward, while the rest of visual environment expands. Conversely, visual environment contracts as you move backwards. See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), pp. 162, 197, 200.

¹⁴⁹ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 102. "The disposition of all the bones, at any moment in time, can be thought of as a sort of branching vector space in the larger space of environment, specified by the set of the angles at all joints relative to the main axes of the body. And now, be it noted, cutaneous touch re-enters the picture, for the *layout* of environmental surfaces in contact with the members of the body and the *disposition* of the members of the body go together."

¹⁵⁰ See: Michael Turvey and Claudia Carello, "The Ecological Approach to Perceiving-Acting: A Pictorial Essay" in *Acta Psychologica* (No. 63, 1986), pp. 133-155.

such as these transformations on the one hand and their reversible transitions on the other.

4.2.2 II/III: Occlusion

085 **Incurving of the Universe** Secondness, according to Peirce, is something that refers to itself only through something else, existence, action-reaction, effort-resistance. In Bergson, the more the reaction ceases to be immediate and becomes a truly possible action, the more the perception becomes distant and anticipatory and extracts the virtual action of things. This is Deleuze's second avatar of the Movement-Image, namely, the Action-Image, whereby one passes imperceptibly from perception to action: "The operation under consideration is no longer elimination, selection or framing, but the incurving of the universe. Which simultaneously causes the virtual action of things on us and our possible action on things."¹⁵¹ Gibson's theory of occlusion is still underused. This incurving of the universe resulting from the reciprocity of the observer and his environment is the ecological 'law' *par excellence*. At an occluding edge, "the present hides the past" and also hides the future. During locomotion, what is being cancelled "goes into the past" and what is being revealed "comes from the future." What we ultimately apprehend is the whole environment. This can best be understood, according to James Williams, through Deleuze's idea of times as dimensions of one another: "For him, past, present and future are not separate parts of time. Instead, they alternately treat each other as dimensions, where to be a dimension means to be a subsequent process. These processes [in turn] operate on series of events."¹⁵²

As we have seen, all perceptual systems are exoreceptive as well as proprioceptive. Differently put, together they specify both the world and one's own locomotion. Indeed, we would not be able to drive a car unless we both visually perceived and controlled the locomotion in an environment.¹⁵³ The hypothesis of invariant extraction is at the heart of the matter. Gibson repudiates the thesis according to which we sense sensations and then correct them. According to him, we extract over time the *invariants* that specify the substances and surfaces and the layout of these surfaces of the environment. If we allow for

¹⁵¹ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 65.

¹⁵² James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), p. 9.

¹⁵³ The world doesn't move, eyes do (retinal image keeps shifting). If the doctrine of sensations were true, the world should move or at least visual sensations should move, and one would need to have an elaborate theory of how the retinal image is compensated whenever the eyes move.

this hypothesis, then the theory of *association* becomes irrelevant (bucket theory of mind). Though, admittedly, we certainly form associations but they are not relevant for perceptual learning. The Gibsonian Michael Braund explains:

[T]heories of indirect perception assume that 'bits of sensation are interchangeable, determinate independent of their context, atomic.' Only perceptions can be called meaningful. However, because they also assume that perceptions are derived from sensations, just as conclusions are derived from premises, theories of indirect perception wrongly suppose that the constitution of perceptual meaning is a two-stage process of (1) acquiring neutral sensations and (2) accruing perceptual meanings to sensations *vis-à-vis* concepts. [...] In Gibson's estimation, theories that root perception in the *a priori* or the *a posteriori*, in deductive or inductive systems established in advance of acts of perception, are pitched at the wrong level. Perceptual meaning does not transcend the environment.¹⁵⁴

Consequently, all the elaborate and ingenious hypotheses of the Gestalt theory - a major competitor to association theory - are rendered irrelevant too.¹⁵⁵ The figure/ground organisation in the brain may occur, but it is not entailed in perception.¹⁵⁶ As Henry Somers-Hall points out, Gestalt is to be recast as *interplay* between the figure and the ground: "As such, any variation in the figure itself will cause reciprocal topological variations in the underlying field itself. Husserl's [phenomenological] error is in not realizing that *the ground itself is a part of the figure*."¹⁵⁷ [emphasis added] In positing the figure/ground as a

¹⁵⁴ Michael J. Braund, *From Inference to Affordance: the Problem of Visual Depth-perception in the Optical Writings of Descartes, Berkeley and Gibson* (Ottawa: Library and Archives Canada, 2009), p. 101.

¹⁵⁵ Merleau-Ponty's *Phenomenology of Perception* operates under this questionable framework: "When Gestalt theory informs us that a figure on a background is the simplest sense-given available to us, we reply that this is not a contingent characteristic of factual perception, which leaves us free, in an ideal analysis, to bring in the notion of impressions. It is the very definition of the phenomenon of perception [sic], that without which a phenomenon cannot be said to be perception at all." See: Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, [1945] 2006), p. 4.

¹⁵⁶ For Koffka, the order of nature was lost at the retina and had to be reconstituted by organisational processes in the brain. Because experience was thought to be isomorphic with the brain field, not the environment, Gestalt Psychology is a theory of indirect, rather than direct, realism. See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 186.

¹⁵⁷ See: Henry Somers-Hall, "Deleuze and Merleau-Ponty: Aesthetics of Difference" in *Gilles Deleuze: The Intensive Reduction*, ed. Constantin V. Boundas (London and New York: Continuum, 2009), p. 124. "While phenomenology must normally be seen as a science of the actual, Deleuze recognizes the possibility of Merleau-Ponty moving beyond this

template for changing content into pre-specified forms, the Gestaltists effectively committed the error of subordinating the contingent to the necessary, the fluid to the stable, and *a posteriori* to *a priori*.

086 **A Thousand Senses** The ecological approach involves a rejection of the ancient theory of 'channels of sense'. The Greeks established that there were five senses although they knew that there were more. There has been an ongoing controversy over the issue ever since. Nobody has ever been able to put the issue to rest and the only 'basis' for determination has been the number of nerves you can count. Hence, the optic nerve, auditory nerve, taste nerve, nerve to the nasal mucosa and finally the 'touch nerve' (which does not exist). None of them serves for vision. According to Gibson, the nerves are but 'anatomical accidents of the way in which 'inputs' ('afferent impulses') and 'outputs' ('efferent impulses') are circularly distributed through our perceptual *system*. If we give up the notion that the nerves are 'channels for signals' from the receptors to the brain, allowing for communication with the world ("as if we were a telegraph system"), we will be open to a new conception of perception. [Table xli] In that sense, an eye is merely one of a number of organs in a head which is on a body that can move relative to the ground, all of which make up an assemblage of organs whose purpose is to pick up information in the light. This understanding of perception does not give rise to the fallacious quandary of how it is that we do not see two worlds given the two sets of sensations provided by our two eyes. In short, how do they get combined? Nobody has ever been able to answer that question. The theory of binocular disparity has been a puzzle for at least a century, but if we accept Gibson's proposition and think of the eyes as part of a dual organ in the head within the perceptual system, that is, *one* organised system, then there is no problem to begin with:

[B]inocular information does not consist, as traditional theory would have it, of two things which must be compared and conjoined, but of single entities - transformations - which must be detected. [...] Singleness and three-dimensionality are environmental properties that are specified in the light and detected by a properly attuned visual system.¹⁵⁸

Indeed, as Mark Rowlands points out, no one has ever suggested that tactile perception, for example, involves a synthetic step of combining multiple sets of sensations: "yet when one feels an object under a cloth, each hand must obtain a

limitation in his later work *Eye and Mind*." Cf. Maurice Merleau-Ponty, *The Visible and Invisible* (Illinois: Northwestern UP, 1965).

¹⁵⁸ See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 122.

quite different tactile impression, and logically the problem of 'singleness' of tactile perception is the same."¹⁵⁹ Therefore, if tactile images need not be compared, as Rowlands concludes, why consider binocular vision as one which involves the comparison and fusion of two retinal images? The answer is provided by Gibson's replacement of *internal* processing by *external* action.¹⁶⁰ This seemingly simple 'change of angle' has far-reaching consequences. The emphasis shifts to the way in which the habitat either satisfies or opposes the requirements associated with the *ethos*, or affords opportunities for its change.

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TWO EYES	saccades + movement
HEAD	movement
BODY	exoreception + proprioception
TERRAIN	non-isotropic medium
+++++	

xli **Two eyes One system:** *There is a great deal of redundancy in perception [...] Fire that is simultaneously seen, heard, felt and smelled is experienced as one fire, not as four sensations.*¹⁶¹ *[T]he 'haptic' system can yield information about solid objects in three dimensions, whereas 'touch', in the narrow sense of cutaneous impressions, has been supposed to be capable of yielding information only about patterns on the skin in two dimensions. The old idea that touch is strictly a proximity sense, as vision has been taken at the beginning of infancy, is based on a very narrow conception of the sense of touch.*¹⁶² (J.J. Gibson, 1966)

Affirming the inseparability of the behaviour peculiar to a being (*ethos*) and the habitat of that being (*oikos*) calls for the 'etho-ecological' paradigm as proposed by Isabelle Stengers. However, inseparability does not necessarily mean dependence, as Stengers cautions: "An *ethos* is not contingent on its environment, its *oikos*; it will always belong to the being that proves capable of it. It cannot be transformed by any predictable way of transforming the environment. [...] We never know what a being is capable of or can become capable of."¹⁶³ The Bergsonian trope 'movement = image' thus acquires a kindred Gibsonian version of 'action = perception'. Deleuze went a step further to merge the two into a

¹⁵⁹ Mark Rowlands, "Against Methodological Solipsism: The Ecological Approach" in *Philosophical Psychology* (Vol. 8, No. 1, 1995).

¹⁶⁰ Of course, the internal/external distinction is not absolute.

¹⁶¹ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 170.

¹⁶² See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 102.

¹⁶³ Isabelle Stengers, "The Cosmopolitical Proposal" in *Making Things Public: Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel (Cambridge: MIT Press, 2005), p. 996.

'Movement-Image'. Gibson's answer to that is *affordance*, a unique reminder that a mode of existence never pre-exists an event.

087 **Overt Attention** No ethos in itself contains its own meaning or masters its own reasons. This is the groundless ground of the theory of overt attention, which is the kind of attention that, according to Gibson, has been neglected by the tradition focused on mental attention. We see here the distinction between the passive (habitual) and active (representational) synthesis in Deleuzian terms.¹⁶⁴ By Gibson's account, his thesis from *The Senses Considered as Perceptual Systems* (1966) that perceptual systems are 'modes of attention' confused some who mistook it for internal attention.¹⁶⁵ What Gibson actually referred to is the activity of using muscles as explanatory adjustments for the purpose of getting more information. This is his famous *tuning in* where the modes of sensation - seeing, hearing, touching - are substituted with the more indefinite looking, listening, feeling.

+++++	
STRUCTURAL INVARIANTS	TRANSFORMATIONAL INVARIANTS
Perspective	Formless form
<i>Proprioception specifying where we are heading</i>	<i>Exteroception specifying the nature of what we are heading toward</i>
+++++	

xlii

Invariants: *Continuous optical transformations can yield two kinds of perception at the same time, one of change and one of non-change. The perspective transformation of a rectangle, for example, was always perceived as both something rotating and something rectangular. This suggests that the transformation, as such, is one kind of stimulus information, for motion, and that the invariants under transformation are another kind of stimulus information, for the constant properties of the object. [...] There is almost always some permanence imbedded in any change. [...] The primacy of form or pattern comes into question. There is no "form" left in a continuous transformation. It has vanished and all that remains is the invariants.*¹⁶⁶ (J.J. Gibson, 1973)

¹⁶⁴ 'Habit' is defined here as the synthesis of a variation in intensity, where retention is the absorption of past variations, and expectation the impulse to future ones.

¹⁶⁵ Coincident with the publication of the *Senses*, Gibson began work on the "Purple Perils" as short manuscripts for his perception seminar at Cornell University (printed in purple ink). This material contained the seeds of what eventually grew into his books and articles. <http://www.trincoll.edu/depts/ecopsyc/perils/> (accessed May 25, 2011).

¹⁶⁶ James Jerome Gibson, "On the Concept of Formless Invariants in Visual Perception", 1973 (working notes for a book to be entitled *An Ecological Approach to Visual Perception*). See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected*

According to Gibson, the perspectival structure is more or less in correspondence with the world. But we need to shift our attention to the underlying structure which remains the same as the perspectival structure changes. [Table xlii] The invariant structure is revealed by transformations. This is the key to process ontology. In the reversal of Aristotelianism, the change itself becomes the substance and the figure the attribute. Some patterns of relationships remain constant despite the change in the retinal image.¹⁶⁷ When we move around, the world and the patchwork of sensations change all the time (some wipe each other out). There are nevertheless invariants which specify constant features which are not of physical but rather of substantial world. In other words, sensations and percepts are merely *incidental* to perception. While changes in the tilt or slant of objects will cause changes in the shape of the retinal image, the perceived shape will remain constant. The function of the perceptual system is to keep us in touch with the world (causal efficacy). The static experience that we can prescribe by introspection (presentational immediacy) is not entailed in the simple naïve perceiving.

The ecological approach to perception has an important bearing on the theory of memory. In the sensation-based theory - where sensations are necessary for or entailed in the sense perception - the perception is of the *present*, memory is of the *past* and expectation is of the *future*. Precisely how the line between them is to be drawn remains mysterious: "we [...] do not know when perception leaves off and memory begins. [...] we cannot be sure when perception stops and expectation begins, either."¹⁶⁸ From the Gibsonian perspective, what we call memory and recognition is often a special case of invariant detection. As for recollection, according to Gibson, it is a sort of human luxury, an incidental ability to contemplate the past. This conundrum has already been taken up by

essays of James J. Gibson (Hillsdale, NJ: L. Erlbaum, 1982), p. 178. "The puzzle of the detection of both change and permanence in the world goes back nearly 2500 years. Heraclitus and his followers argued that all is flux and permanence is illusory. Parmenides argued that the world is immutable and change is illusory. His pupil, Zeno, even argued that motion is illusory. The controversy was a standoff until it was supposedly resolved by the doctrine that the atomic elements explain the permanencies while their separation and recombination explain changes. But this resolution is not satisfactory to a psychologist, for it does not apply very well to the problem of what the information might be for apprehending the change and permanence."

¹⁶⁷ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 144. "The observer does not 'see' his retinal images, although his retinal images are of course the conditions of his seeing. Images are two-dimensional, whereas his perceptions are three-dimensional."

¹⁶⁸ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 173.

Bergson's major thesis on time, which is that "the past coexists with the present that it has been; the past is preserved in itself, as past in general (non-chronological), at each moment time splits itself into present and past, present that passes and past which is preserved."¹⁶⁹ In other words, consciousness *is* time. It is our experience of a (never actually lived) pure past that provides hints of the transcendental field of the virtual and the conception of time as a durational whole. Gibson's account is compatible with this non-chronological time grasped in its foundation which makes us internal to it rather than the other way round.¹⁷⁰ For him perception includes awareness of the living environment through extracting invariants over time irrespective of the past, present or future. The sensation-based theorists believe that the present sensations get supplemented by some mysterious process of sensory organisation ('in the brain') so as to construct a phenomenal world. Alternatively, in the associational theory "one [for example] perceives the ashtray in the sense of having a sensation of whiteness and glassiness and yellow surround and then comes memory (images) of how it feels (hard, etc.) which by association with the present sensation cluster around one's context and give on the meaning of the percept."¹⁷¹ Both theories are contradicted by a host of evidence.

088 **Amodal Perception** Focusing on perceiving the hidden, that is, the occluded (and dis-occluded) brings us to the issue of amodal (sensationless) perception. Drawing upon Albert Michotte's experiments, Gibson claims that they prove how sensation is not entailed in perception.¹⁷² It is amodal because the percept had

¹⁶⁹ See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 82.

¹⁷⁰ "[T]o conceive of perceptual content as virtual means that concrete perception happens as the resolution of a differential field, an Idea or multiplicity." See: John Protevi, *Political Affect: Connecting the Social and the Somatic* (Minneapolis: Minnesota UP, 2009), p. 52.

¹⁷¹ James Jerome Gibson, "The Ecological Approach to Visual Perception", *The Ohio State University lecture* (23 May, 1974), <http://www.trincoll.edu/depts/ecopsyc/isep/index.html> (accessed May 25, 2011).

¹⁷² The first to successfully isolate 'occlusion information' in the light was psychologist Albert Michotte. In one of his laboratory experiments Michotte displayed a series of five picture-images where a black disk is shown moving down an otherwise empty screen, descending gradually behind an invisible line of horizon located at the centre of the frame. In the words of Gibson, "Abruptly, the leading contour stops while the trailing contour continues to move. The circular contour is transformed in this manner." Michotte reported that all of his observers described seeing a 'slit' in the background, behind which the disk descended. Curiously enough, this phenomenal slit is absent from the first and last frames. It is only perceived when a transition in the contour of the disk occurs. Gibson explains that the appearance of the phenomenal slit is "nothing but the transformation of the contour." See: Michael J. Braund, *From Inference to Affordance: the Problem of Visual*

none of the modal qualities of visual sensation (e.g. no colour), and yet it is perceivable. *Perception without sensation* is not an exception. Quite the contrary, it is an (ecological) 'rule'. The direct perception of the environment is grounded on detecting information and not on having sensations (or memory). We grasp the Whole whose Parts are imperceptible. Surely this must suggest that the Part to Whole relationship is irrelevant in comparison to its ordinary vs. remarkable counterpart: "The question of the body is not one of part-objects but of differential speeds."¹⁷³ In other words, by discovering higher-order regularities (invariants) the system effectively transcends particular modalities. One only need be reminded of how easy it is to reconstruct the whole movement from a handful of animated dots which mark the points of inflections of the dancer's body. While stationary, the arrangement of the dots appears random. However, no sooner do the dots start moving than they are identified as a person.¹⁷⁴

Movement seems to be constitutive of events, which makes it the "symptom of symptoms."¹⁷⁵ For Gibson, this gives us an escape from dualism: neither mentalism (idealism) nor behaviourism (materialism) is able to explain this phenomenon. We cannot rely upon the instrument of the cogito which engages in the auto-affirmation of the self by bracketing cogito away from the world. Nor can we conceive of the mechanism to be directed only toward extended objects severed from its constitutive processes. The relative independence of perceiving from the stimulus is one of the most remarkable conclusions of Gibson's theory. We always have more sense than we think, seems to be the meaning of Deleuze's analogous term of 'disjunctive synthesis'. We have already seen that it is futile to go from the conditioned to the condition in order to think of the conditioned in the image of the condition as the simple form of possibility. The condition cannot have the same kind of relation with its negative as the conditioned has with its negative. What we can have is a direct pick-up of information, or extraction of invariants, without going through the process of interpreting sensations against past experience or of organising sensations into a gestalt. We seem to see the world as directly as possible precisely because it is not based on sensation (sense data) but rather on information.¹⁷⁶ In Gibson's words:

Depth-perception in the Optical Writings of Descartes, Berkeley and Gibson (Ottawa: Library and Archives Canada, 2009), pp. 90-91.

¹⁷³ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 190.

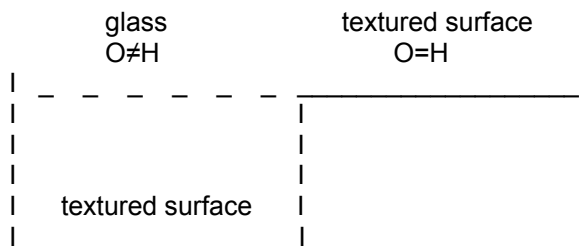
¹⁷⁴ Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 29.

¹⁷⁵ See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 276.

¹⁷⁶ Gibson's information consists neither of stimuli, nor of patterns of stimuli, nor of sequences of stimuli, but of invariants underlying change. Consequently, perceptual *system* does not

The perception is of *one surface behind another*. The observer does not see a patchwork with depth added; he does not see space; he does not see a figure on a ground. He perceives an occluded surface without having any sensations to correspond with that surface. Presumably the perception is based on an invariant over time.¹⁷⁷

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xliii

Optical Cliff: [*optic (O) haptic (H)*] A one-year old baby detects the affordance of falling off without necessarily any space perception or any awareness of the occluding edge and solely by virtue of the layout. All the child needs to perceive is the danger as the affordance, without the details of sensation or change in pattern.

Gibson's wife Eleanor Gibson, a renowned psychologist in her own right, developed the concept of the 'visual cliff', a tool used to study depth perception in infants. In her study, babies who were old enough to crawl were placed at the edge of a small drop-off covered by a sheet of glass. Most of the babies declined to crawl forward, which led Gibson and her collaborator, Richard Walk, to conclude that *depth* perception is not learned.¹⁷⁸ [Table xliiii] What they/we perceive instead are *events*. In this particular case the falling-off-the-cliff event. Perceptual learning, the Gibsons argued, is the essence of how humans come to

respond to stimuli (although a receptor does): it extracts invariants. Of course, different species select different parts of the infinitely possible.

¹⁷⁷ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), pp. 63, 75. "The essence of an optic array is that it has pattern or structure. The radiant pencil has no pattern. [...]."

¹⁷⁸ Eleanor J. Gibson and Richard D. Walk, "The Visual Cliff" in *Scientific American* (April 1960). It is interesting to note that a tortoise is an exception presumably because its distinction between medium and substance is somewhat different from terrestrial animals. See also: Eleanor J. Gibson, "Development of Perception: Discrimination of Depth Compared with Discrimination of Graphic Symbols" in *Monographs of the Society for research in Child Development* (Vol. 28, No. 2, 1963), pp. 5-24.

understand the world around them. It is done through a process of differentiation. This approach resonates strongly with Deleuze who starts neither with intuition (Husserl) nor with consciousness (Kant) but with events themselves. These events are neither *for* a consciousness, nor *in* an intuition:

Perception will no longer reside in the relation between a subject and an object, but rather in the movement serving as the limit of that relation, in the period associated with the subject and object. Perception will confront its own limit; it will be in the midst of things, throughout its own proximity, as the presence of one haecceity in another, the prehension of one by the other or the passage from one to the other: *Look only at the movements.*¹⁷⁹ [emphasis added]

089 **Virtual Perception** Gibson dismisses natural perspective because it geometrises the world by omitting motion and time. Instead, he turns his attention to Occlusion (accretion/deletion) as an ecological fact of a cluttered environment with localised observers. As Goethe would have it: "In nature we never see anything isolated, but everything in connection with something else which is before it, beside it, under it, and over it."¹⁸⁰ Reversible occlusion, due to reversible locomotion and line of sight, provides an explanation for the spatial connectivity of the environment. Meaning is revealed in the environment of the life form. Perception is thus conceived of as an activity, and what is perceived cannot be thought of as analogous to a static image or form. Though an observer will view an object from a variety of perspectives, it is the invariants that will determine the observer's perception and these invariants are not static forms. In that sense, images are not even necessary for thought or perception. This is evident in occlusion, where there is awareness of something in the environment yet there is no qualitative content of 'being occluded'. As Alva Noë insists in virtually all of his papers, we perceive the *whole* tomato, not just its visible surface.¹⁸¹ That is why some proponents of embodied perception are now coming to the conclusion that all visual perception is 'virtual', as Massumi explains in the familiar Whiteheadian tenor:

We never just register what's actually in front of our eyes. With every sight we see imperceptible qualities, we abstractly see potential, we implicitly see a life dynamic, we virtually live relation. It's just a kind of shorthand to call it an

¹⁷⁹ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 311.

¹⁸⁰ Johann Wolfgang Von Goethe, John Oxenford, Johann Peter Eckermann, and Frédéric Jacob Soret, *Conversations of Goethe: with Eckermann and Soret* (London: G. Bell & Sons, 1879), p. 156.

¹⁸¹ See: Alva Noë, *Action in Perception* (Cambridge, Massachusetts: The MIT Press, 2004).

object. It's an *event*. An object's appearance is an event, full of all sorts of virtual movement. It's real movement, because something has happened: the body has been capacitated. It's been relationally activated. It is alive in the world, poised for what may come. This is also 'seen' - there's a sense of aliveness that accompanies every perception. We don't just look, we sense ourselves alive. Every perception comes with its own 'vitality affect.'¹⁸²

Perceptual constancy remains a mystery to empirical research. Traditionally, a shape has been thought to be perceived through two instantaneous values, namely, static retinal form and the momentary distance value of depth c(l)ues.¹⁸³ But the shape perceived is not based on a static property such as form, but rather upon an invariant embedded in change. Take, for example, an invariant which specifies constancy in size: The ratio between an object's height (A), and the 'height' between its base and the horizon (B). If $A:B = A':B'$, across all distances from the viewer, then the size of the object is the same. This means that a 'looming' object is not perceived as growing in size, but rather as nearing. This is how all animate beings will invariably perceive it.¹⁸⁴ According to Gibson, it is these (formless) invariants of optical change that specify an object's integrity, its shape, and its rigidity.¹⁸⁵ This is conspicuously topological vocabulary.

It is important to stress yet again that the invariants that specify salient dimensions of the living environment are detected, not computed. Most

¹⁸² See: Brian Massumi "The Thinking-Feeling of What Happens: A Semblance of Conversation" in *Inflexions: How is Research-Creation?* (No. 1.1, May 2008), p. 5. www.inflexions.org (accessed May 25, 2011).

¹⁸³ Gibson gained this insight from Merleau-Ponty's writings on the phenomenology of perception. See: Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001), p. 161. "If *depth* means the dimension of the object that goes with height and width, there is nothing special about it. Height becomes depth when the object is seen from the top, and width becomes depth when the object is seen from the side. [...] The theory of depth perception is based on confusion and perpetuated by the fallacy of the retinal picture."

¹⁸⁴ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 175. "The magnification of the visual solid angle of an object normally accelerates as it approaches the limit of a hemispheric angle, as the object comes up to the eye. The accelerated portion of this sequence was called 'looming' by Schiff, Caviness, and Gibson (1962). It specifies impending collision, and the *rate* of magnification is proportional to the imminence of the collision. Schiff (1965) adapted the looming apparatus to test the behavior of animals. He used monkeys, kittens, chicks, frogs, and fiddler crabs. All of them showed avoidance behavior or withdrawal analogous to the ducking and dodging of the human observer."

¹⁸⁵ Gibson distinguishes between perspective and invariant structure in the optic ambience. The former will change as an observer moves, but the latter will change only if there is some change in the environment.

importantly, as soon as senses are considered perceptual systems, all traditional theories of perception become obsolete. It is no longer the question of how the mind operates on the deliverance of senses, or how past experience can organise data, or even how the brain can process the input of nerves, but simply *how* information is picked up.¹⁸⁶ Obviously the entire environment cannot be revealed to an observer simultaneously. Given that environmental surfaces are usually opaque, if an observation point is introduced, the fact of occlusion emerges by default. If there is such a thing as an ecological law of surfaces than it is Gibson's *occlusion*. As far as architectural theory goes, it is a powerful alternative to both literal and phenomenological transparencies of Colin Rowe and Robert Slutzsky, which have been too hastily transposed from the realm of (cubist) painting.¹⁸⁷ As Jeffrey Kipnis explains, the latter as appropriated by architect Eisenman is merely conceptual: "It is not seen, but read; it belongs not to the senses, but to the mind."¹⁸⁸ By contrast, Gibson's account is fully dynamic: "[E]ven when reformulated in terms of 'layout', the ancient problem of space perception is only intelligible in terms of space-time. More concretely, the implication is that we can understand the perception of the environment only when we consider changes in the observer's point-of-view. So, far from visual perception of the world being one problem and the visual experience of movement *through* the world being another problem, the truth seems to be that both are one problem which is simpler when they are considered together."¹⁸⁹

¹⁸⁶ James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 319. Gibson's sceptical attitude is shared with Albert North Whitehead: "When we are conscious of nature, what is it that we really observe? The obvious answer is that we perceive various material bodies, such as chairs, bricks, trees. We can touch them, see them and hear them. As I write I can hear the birds singing in a Berkshire garden in early spring. In conformity with this answer, it is now fashionable and indeed almost universal to say that our notions of space merely arise from our endeavours to express the relations of these bodies to each other [c(l)ues]. I am sorry to appear pigheaded; but, though I am nearly in a minority of one, I believe this answer to be entirely wrong." See: Albert North Whitehead, *The principle of relativity*, (New York: Cosimo Classics, [1922] 1997), p. 53.

¹⁸⁷ Colin Rowe and Robert Slutzsky, "Transparency: Literal and Phenomenal" in *Perspecta* (Vol. 8, 1963), pp. 45-54.

¹⁸⁸ Jeffrey Kipnis, "P-TR'S PROGRESS" in *El Croquis* (No. 83, 1997), pp. 36-49. "Strictly speaking, what Rowe and Slutzsky name 'literal transparency' is a phenomenal effect, and their 'phenomenal transparency' is an interpretative, and therefore literary effect."

¹⁸⁹ James Jerome Gibson, "An outline of experiments on the direct perception of surface layout", unpublished manuscript, 1968.

4.2.3 III/III: Affordance

090 **Auto Affection** Finally, something that refers to itself only by comparing one thing to another belongs to Peirce's logic of Thirdness, which has to do with relation, the law, the necessary. For Deleuze, the interval (in-between-ness) is occupied by affection:

It surges in the centre of indetermination, that is to say in the subject, between a perception which is troubling in certain respects and a hesitant action. It is a coincidence of subject and object, or the way in which the subject perceives itself, or rather experiences itself or feels itself 'from the inside' (third material aspect of subjectivity). It relates movement to a 'quality' as lived state (adjective). Indeed, it is not sufficient to think that perception thanks to distance - retains or reflects what interests us by letting pass what is indifferent to us. There is inevitably a part of external movements that we 'absorb', that we refract, and which does not transform itself into either objects of perception or acts of the subject; rather they mark the coincidence of the subject and the object in a pure quality. This is the final avatar of the Movement-Image: the Affection-Image.¹⁹⁰

Orthodox psychology asserts that we perceive objects insofar as we discriminate their properties or qualities. By contrast, Gibson suggests that what we perceive when we look at objects are their affordances, not their qualities. The infant begins by noticing an affordance. Similarly, "primitive men did not pay attention to the properties of things until they learned to draw and to perceive by means of drawing."¹⁹¹ The meaning is observed before the substance and surface or the colour and form are seen as such. The latter are always the result of reflective analysis, confabulation. An affordance is not a certain aspect of an object to which a perceiver is related, rather it is the relation itself. Gibson goes so far as to claim that we evolved colour vision because we found it useful - living as we did among trees - to discriminate between ripe and under ripe, or to specify something meaningful in the world. According to him, "Sky is blue because apple is red."¹⁹² In other words, for the empiricist there is no important distinction between apparitions and things-themselves. Coherence is not logical, but ecological. [Table xlv] It is only when experience starts to presume that such representations are necessary for object-intelligibility that we get this

¹⁹⁰ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 65.

¹⁹¹ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 286.

¹⁹² James Jerome Gibson, "The Ecological Approach to Visual Perception", *The Ohio State University lecture* (23 May, 1974), <http://www.trincoll.edu/depts/ecopsyc/isep/index.html> (accessed May 25, 2011).

dichotomy.¹⁹³ An affordance is an invariant combination of variables, and, according to Gibson, one might guess that it is easier to perceive such an invariant unit than it is to perceive all the variables separately.¹⁹⁴ It is, in this sense, holistic. For example, a child will at an early age perceive the mother as nurturing before anything else, that is, before perceiving her through attributes. "The breast is a machine that produces milk, and the mouth a machine coupled to it."¹⁹⁵ In the ecological view, the purpose of perception is not to produce an end product/percept, but to constrain and enable actions in such a way as to continuously reveal useful aspects of the environment.¹⁹⁶ Participation precedes cognition. A pragmatist moment in which a percept is substituted for a concept and its implications for architecture are explained by the Gibsonians Edward Reed and Rebecca Jones in the following words: "Architects manipulating substantial surfaces of enclosures design their creations in terms of affordances of those surface layouts: Walls, floors, doors, shelters, and paths are words we use to refer to what the human-built environment affords us. According to Gibson, these meaningful properties of the environment, although known tacitly, not explicitly, are primarily what is seen."¹⁹⁷ The notion of accurately representing objective features of the environment (*qua* memory, inference or imagination) is replaced by the accurate discrimination of information specific to invariants determining objects which, in turn, are specific to affordances. Perceiving an apple then becomes a matter of attending to those features of the

¹⁹³ Scott Lash, "Experience" in *Theory, Culture & Society* (Vol. 23, No. 2-3, May 2006), pp. 335-341. "We note also that not just the categories, but time and space too, are such predicates. Thus objects have time and space as attributes or qualities, rather than material or social objects having their own intrinsic temporality and spatiality. [...] Experience is only intelligible under these conditions. We know through acts of judgement. In each of these acts a number of categories as forms or functions are in play. These are unified by another function that Kant calls the transcendental unity of apperception. It is the category that coordinates and looks after the other categories. Classificatory knowledge consists of bringing particulars under universals."

¹⁹⁴ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), pp. 134-135.

¹⁹⁵ See: Gilles Deleuze and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 1. "It [desiring-machine] is at work everywhere, functioning smoothly at times, at other times in fits and starts. It breathes, it heats, it eats. It shits and fucks. What a mistake to have ever said *the* id. Everywhere *it* is machines-real ones, not figurative ones: machines driving other machines, machines being driven by other machines, with all the necessary couplings and connections. An organ-machine is plugged into an energy-source-machine: the one produces a flow that the other interrupts."

¹⁹⁶ See: Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 95.

¹⁹⁷ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 301.

apple which either past experience or innate knowledge has taught to be relevant to (homeostatic) needs, such as colour red. However, "an affordance is not bestowed upon an object by a need of an observer and his act of perceiving it", as Gibson explains.¹⁹⁸ What 'bestows' it is life itself. According to Manuel DeLanda, the objective relativity of Gibson's affordances with respect to scales makes them the ideal candidate for defining the 'lived present' of a particular individual. However, their virtuality points to a very different ontological status in comparison with actuality. DeLanda offers an illustrative example of the knife's capacity to cut things:

[W]hen the capacity does become actual it is not as a state, like the state of being sharp, but as an event, an event that is always double: *to cut-to be cut*. The reason for this is that the knife's capacity to affect is contingent on the existence of other things, cuttable things, that have the capacity to be affected by it. Thus, while properties can be specified without reference to anything else capacities to affect must always be thought in relation to capacities to be affected. Finally, the ontological relation between properties and capacities displays a *complex symmetry*. On one hand, capacities depend on properties: a knife must be sharp to be able to cut. On the other, the properties of a whole emerge from interactions between its component parts, interactions in which the parts must exercise their own capacities: without metallic atoms exercising their capacity to bond with one another the knife's sharpness would not exist.¹⁹⁹ [emphasis added]

Affordances are what individuals 'perceive' within their own time scale as the relevant capacities of the other individuals interacting with them. It is in this sense that Deleuze literally affirms that even inorganic things 'have a lived experience'.²⁰⁰ According to Deleuze and Guattari, there is no vital matter specific to the organic stratum as matter is the same across the machinic assemblage. Thus a body is not defined by its form, function or substance, but rather by its potential to enter into relations with other bodies. Accordingly, objective intensities do not constitute psychological sensations but what Deleuze and Guattari call the very 'being of the sensible'. *Sentiendum* is that which cannot be sensed by the (fully) actualised psychologised individual - having been covered by extensities - and (paradoxically) that which can *only* be sensed.²⁰¹

¹⁹⁸ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 133.

¹⁹⁹ See: Manuel DeLanda, *Philosophy and Simulation: The Emergence of Synthetic Reason* (London and New York: Continuum, 2011), p. 4.

²⁰⁰ See: Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 21.

²⁰¹ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 144. "This element is intensity, understood as pure difference in itself, as that which is at

One cannot be but struck by the irony of Gibson, a psychologist who seems to have removed the last vestiges of psychologism. Be that as it may, having placed 'perception' *in the world* he changed the nature of space forever.²⁰²

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THE ECOLOGICAL APPROACH	THE VISUAL WORLD
- Explicit concept of information in stimulation	- No distinction between stimulation and information
- Optic array concept used	- Retinal image concept used
- Information-based theory	- Sensation-based theory
- Perception does not correspond to anything	- Perception corresponds to stimulation
- Impossibility of 1:1 correspondence demonstrated	- 1:1 correspondence between world and 'total' ordinal image
- S-R concepts rejected	- Uses S-R concepts
- There is no stimulus for vision; retinal image is irrelevant	- Retinal image treated as the stimulus for vision
- Meanings (affordances) are discovered	- Meanings can be contributed to perception by the mind
- Form perception as relevant only for picture perception	- Form perception as important
- Constancy rejected as false problem	- Problem of the 'constancies' taken as fundamental
- Changing optic array given priority	- Frozen retinal image and gradients given priority

xliv **Gibson's Comparative List:** *Gibson's list of the differences between his own The Visual World (1955) and The Ecological Approach (1978) in order to highlight the paradigm shift.*²⁰³

4.3 Priming

091 **Soft Power** Peter Sloterdijk observed that until recently there prevailed a voluntary spatial blindness. Temporal problems were seen as progressive and

once both imperceptible for empirical sensibility which grasps intensity only already covered or mediated by the quality to which it gives rise, and at the same time that which can be perceived only from the point of view of a transcendental sensibility which apprehends it immediately in the encounter."

²⁰² Sanford Kwinter, "Difficulty and Innovation" in *Harvard Design Magazine: Concepts; The Architecture of Hope* (No. 19, 2003/2004), pp. 1- 4.

²⁰³ See: Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven: Yale UP, 1988), p. 283.

cool, unlike "the old-fashioned and conservative questions of space, a matter for old men and shabby imperialists." According to him, even the fascinating novel chapters on space in Deleuze and Guattari's *A Thousand Plateaus* (1980) could not change the situation, since "they arrived too early for the chronophilic, or time-worshipping, zeitgeist of those days. [...] The same goes for programmatic propositions in late Foucault - according to whom we are again entering an age of space."²⁰⁴ This is no longer the case, as the political geographer and Lefebvrian scholar Edward Soja announced:

So I have good news and bad news for architecture and the other spatial disciplines: the good news is that there has been a spatial turn: the stuff that we deal with - space - is hot everywhere. The bad news is that others are doing it better than we are.²⁰⁵

Brian Massumi has recently reinvigorated – in his own words - 'movement into perception' in order to operate not on the level at which actions are decided, but on the level at which the very capacity for action is forming.²⁰⁶ This is a part of his fascinating (and disturbing) study of a military doctrine known as *Full Spectrum Force*. The spectrum he is referring to spans the conventional brute *force-on-force* engagement at one end, and the *soft* perception/action modulation at the other. "This is a point before 'knowability' and 'actability' are differentiated from one another" Massumi explains, "At that point modulation of perception is directly and immediately a change in the parameters of what a body can do [...] This antecedent level of capacitation of potentialisation is proto-epistemological and already ontological in that it concerns changes in the body's degree and mode of enablement in and towards its total situation or life environment."²⁰⁷ Any application of force at this level is an onto-power, a power through which a being

²⁰⁴ Bettina Funcke, "Against Gravity: Bettina Funcke Talks with Peter Sloterdijk" in *Bookforum* (February-March 2005) http://www.bookforum.com/archive/feb_05/funcke.html (accessed May 25, 2011).

²⁰⁵ Edward Soja, "Lessons in Spatial Justice" in *Hunch* (No. 1, 1999), pp. 102-103. See also: Edward Soja, "Taking Space Personally" in *The Spatial Turn: Interdisciplinary Perspectives*, ed. Barney Warf and Santa Arias (London and New York: Routledge, 2009), pp. 11-35.

²⁰⁶ "It's not the same factory gate when I go in, and when I come out, and when I go past unemployed." See: Gilles Deleuze, "Three Questions on Six Times Two" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), p. 44.

²⁰⁷ Brian Massumi has recently argued that The US Defence Advanced Research Projects Agency (DARPA) is aware of this. These effects are not to be confused with *subliminal* influence but taken as *existential* operations creating pragmatic fields of potential action and thought that modulate without directly causing the outcome. See: Brian Massumi, "Perception Attack", *Dictionary of War* (2007), http://dictionaryofwar.org/concepts/Perception_Attack (accessed May 25, 2011).

becomes. The issue is related to the eternal problem of nature vs. nurture. According to Deleuze and Guattari the natal has a consistency that cannot be explained as a mixture of the innate and the acquired. On the one hand, the life form is 'impregnated' by a matter of expression long before it is able to perform the corresponding act *vis-à-vis* an object or situation. On the other, it is precisely what accounts for such mixtures in territorial assemblages and interassemblages. The natal, according to Deleuze and Guattari, is thus best described by a decoding of innateness and a territorialisation of learning: "[T]he notion of behavior proves inadequate, too linear, in comparison with that of the assemblage. The natal stretches from what happens in the intra-assemblage all the way to the center that has been projected outside; it cuts across all the interassemblages and reaches all the way to the gates of the Cosmos."²⁰⁸ [emphasis added]

092 **Parastrata** Recently the Israeli architect Eyal Weizman has convincingly shown how the sophisticated post-structuralist theories can be co-opted for the most mundane of purposes, namely warfare.²⁰⁹ This is his depiction of 'un-walling of the wall', a term borrowed from the American artist and trained architect Gordon Matta-Clark, also known as the tactics of 'walking through walls':

Fighting took place within half-demolished living rooms, bedrooms and corridors of poorly built refugee homes, where the television may still be operating and a pot may still on the stove. Rather than submitting to the authority of conventional spatial boundaries, movement became constitutive of space, and space was constituted as an event. It was not the order of space that governed patterns of movement but movement that produced and practiced space around it. The three-dimensional movement through walls, ceilings, and

²⁰⁸ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 332-333.

²⁰⁹ Weizman recounts an interview with a high ranking officer, Head of the Operational Theory Research: "We read Christopher Alexander [...] can you imagine? We read John Forester. [...] We read Gregory Bateson, we read Clifford Geertz. Not just myself, but our soldiers, our generals are reflecting on these kinds of materials. We have established a school and developed a curriculum that trains 'operational architects'. [...] Several of the concepts in *A Thousand Plateaus* became instrumental for us [...] allowing us to explain contemporary situations in a way that we could not have otherwise explained. It problematized our own paradigms. [...] Most important was the distinction they have pointed out between the concepts of 'smooth' and 'striated' space [...] [which accordingly reflect] the organizational concepts of the 'war machine' and the 'state apparatus.' [...] In the IDF [Israeli Defense Forces] we now often use the term 'to smooth out space' when we want to refer to operation in a space as if it had no borders." See: Eyal Weizman, *Walking Through Walls* (2007), <http://eipcp.net/transversal/0507/weizman/en> (accessed May 25, 2011).

floors across the urban bulk reinterpreted, short-circuited, and recomposed both architectural and urban syntax. The tactics of 'walking-through-walls' involved a conception of the city as not just the site, but as the very *medium* of warfare – a flexible, almost liquid matter that is forever contingent and in flux.²¹⁰

There is not only the *exterior* milieu and the organic *interior* milieu, Deleuze and Guattari suggest, but also the *annexed* or *associated* milieu, whereby sources of energy different to the material that will make up the interior are annexed to the organism. "Life begins to 'breath', to respire in the most general sense of annexing specific energy sources," as eco-philosopher Tom Greaves explains.²¹¹ In the similar fashion, the 'sphereologist' Sloterdijk proclaims *ventilation* to be "the profound secret of existence"²¹² He identifies a turning point in the military treatment of the atmospheric envelope. It was during World War I, in April 1915, that German troops used gas for the first time as a weapon against the French positions on the Ypres front: "This type of war no longer kills by direct fire but by destroying the environment the enemy needs to survive. The art of killing with the environment is one of the big ideas of modern civilisation. It contains the nucleus of contemporary terror: to attack not the isolated body of the adversary, but the body in its 'Umwelt'."²¹³ We ought to reject the military and right-wing monopoly over the 'soft power' of *Noo-politik*, where life forms are targeted not on the level of *space* but on the level of *spatialisation*, and appropriate it for our own life-affirming purposes instead. Bernard Cache in the *Earth Moves* (1995) gives an original definition of architecture as the art of framing which separates only to carefully re-unite (the interior and exterior). In the words of Michael Speaks who wrote an introduction to the English edition of his book subtitled *The Furnishing of Territories*:

Cache redefines architecture as the art of the frame: architecture thus escapes its traditional role of housing and grounding and becomes a practice of framing

²¹⁰ See, Eyal Weizman, *Walking Through Walls* (2007), <http://eipcp.net/transversal/0507/weizman/en> (accessed May 25, 2011). See also: Eyal Weizman, *Hollow Land* (New York, Verso, 2007), pp. 185-218.

²¹¹ "There is the *exterior* milieu in which an exterior of amorphous material is interiorised as in the process of crystallisation. There is also the organic *interior* milieu in which organisation involves membranes and limits the interior." See: Tom Greaves, "A Silent dance: Eco-Political Compositions after Uexküll's Umwelt Biology" in *An (Un)Likely Alliance: Thinking Environment(s) with Deleuze/Guattari*, ed. Bernd Herzogenrath, (Newcastle upon Tyne: Cambridge Scholars Publishing, 2008), p. 100.

²¹² See: Peter Sloterdijk, "Foreword to the Theory of Spheres" in *Cosmograms*, ed. Melik Ohanian and Jean-Christophe Royoux (New York: Lukas & Sternberg, 2005), pp. 225-226.

²¹³ See: Peter Sloterdijk, *Terror from the Air* (Los Angeles: semiotext(e), 2009), pp. 29-30.

images in such a way that they induce new forms of life. Taking advantage of these intercalar spaces, these intervals of life-creating indeterminacy, architecture first isolates (by way of the wall), selects (using the device of the window) one of these intervals from the external topography, and then arranges this interval in such a way as to increase the probability of an intended effect. Taken all together, these three activities - isolating, selecting, and arranging - delimit Cache's redefined architectural practice of enframing.²¹⁴

The practice of enframing is inseparable from deframing, as Marko Jobst recently explains in his critique of Beatriz Colomina's commitment to the ontology of presence, because every frame - as a Part - effectively 'frames out' the Whole.²¹⁵ A variant of the term from *What is Philosophy?* (1991) was already present in Deleuze's *Cinema 1* under the cinematic term of *out-of-field*. Gibson would have seen it as a matter of *occlusion*, whose reversibility has far-reaching implications. Not only because the occlusion is seen (as such), but also because the persistence of a hidden surface is seen, and the very connection of the hidden with the unhidden is perceived. Gibson concludes that this evidence of awareness of 'togetherness' in general, and of 'what-is-behind' in particular, contradicts our traditional theories: "The doctrine that all awareness is memory except that of the present moment of time must be abandoned. So must the theory of perception. [...] A new theory of orientation, of way-finding, and place-learning in the environment becomes possible. And the puzzles of public knowledge, of egocentricity, and of privacy begin to be intelligible."²¹⁶ The Gibsonian *occlusion* and the Deluzian *out-of-field* offer a radically different understanding of the part

²¹⁴ Michael Speaks, "Folding toward a New Architecture" in Bernard Cache, *Earth Moves: The Furnishing of Territories* (Cambridge: The MIT Press, 1995), p. xviii. "[O]f which Deleuze has written: 'Interlocking these frames or joining up all these planes-wall section, window section, floor section, slope section-is a composite system rich in points and counterpoints. The frames and their joins hold the compounds of sensations, hold up figures, and intermingle with their upholding, their own appearance'." Cf. Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), p. 187.

²¹⁵ Jobst looks at a 1992 essay by Beatriz Colomina, one of the more engaging and enduring texts to tackle modernism's close relationship with framing in relation to photography and film: "[...] Colomina's text is also representative of a reduced conceptual palette that architectural writing routinely utilises when concerning itself with the question of imaging. To frame, in Colomina's text, is to construct images statically, atemporally and discontinuously, and it implies the loss of an architectural 'real'." See: Marko Jobst, "Exception, Rule and Architecture *out-of-field*" in *Rhizomes* (No. 21, winter 2010). Cf. Beatriz Colomina, "The Split Wall: Domestic Voyeurism" in *Sexuality and Space* (New York: Princeton Architectural Press, 1992), <http://www.rhizomes.net/issue21/jobst/index.html> (accessed May 25, 2011).

²¹⁶ James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 202.

to whole relation way beyond simple dichotomies. In the words of Deleuze, "[T]he out-of-field already has two different aspects: a relative aspect by means of which a closed system refers in space to a set which is not seen, and which can in turn be seen, even if this gives rise to a new unseen set, on to infinity; and an absolute aspect by which the closed system opens on to a duration which is immanent to the whole universe, which is no longer a set and does not belong to the order of the visible."²¹⁷ So, there is neither One, nor a meta-language, and the Whole is not (given). In the words of Whitehead: "[T]here are no clear divisions anywhere [...] when you push your observations beyond the presuppositions on which they rest [...] Any division, including some activities and excluding others, also severs the patterns of process which extend beyond all boundaries. [...] connectedness is the essence of all things of all types."²¹⁸ The Whole conceived in this way is open and reciprocally determined. Each time there is a translation of Parts in space, there is also a qualitative change in the Whole. In the words of Jean-Michel Salanskis: "[T]he birth of the qualified being consists in dimensional reduction [frame], circumscribing the 'limitless virtual' [Whole] into a possibility fixed by a parameter, which must then be qualified until objectivity is generated."²¹⁹ In stark opposition to the media theorist Mark Hansen who accuses Deleuze of (bad) formalism, Jobst finds Deleuze's (good) formalism indispensable for addressing the question of immanence in architecture: "[T]he notion of an 'outside', and therefore of the whole that the frame [tacitly] relates to, would assume a more nuanced character, one that would have to address the notion of duration in architecture, and consequently its relation to thought."²²⁰ Once the *framing* has been defined as the act of establishing (only ever provisional) territory out of chaos it becomes the condition of all the arts including architecture:

The frames and their joints hold compounds of sensation [...]. Frames or sections are not coordinates; they belong to compounds of sensations whose faces, whose interfaces, they constitute. But however extendable the system may be, it still needs a vast plane of composition that carries out a kind of *deframing* following

²¹⁷ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 17.

²¹⁸ Alfred North Whitehead, *Modes of Thought* (Cambridge: Cambridge UP, 1938), p. 21.

²¹⁹ Jean-Michel Salanskis, "Some Figures of Matter" in *Pli* (No. 12, 2001), p. 8.

²²⁰ Marko Jobst, "Exception, Rule and Architecture *out-of-field*" in *Rhizomes* (No. 21, winter 2010), <http://www.rhizomes.net/issue21/jobst/index.html> (accessed May 25, 2011). See also: Mark Hansen, introduction to *New Philosophy for New Media* (Cambridge, MA: MIT Press, 2004), p. 7.

lines of flight that pass through the territory only in order to open it onto the universe [...].²²¹

The intensive limit of a Roman city marked by a furrow of plough drawn by a cow on the inner side (the interior) and an ox on the outer side (the Whole) fits into the definition of architecture as the art of framing and at the same time explains the etymology: *Urbs* - city; *Urvum* - furrow, *Urvo* - I furrow; *Urbis* - sphere, world.²²² *Terra incognita* outside versus *terra cognita* inside. But it is not so much about the known/unknown as it is about the conditioning, that is to say about power! In his essay *Atmospheric Politics* (2005) Sloterdijk draws our attention to the term *environment*, as one of the most significant discoveries of the 20th century which would influence the development of ecology.²²³ It is not only a matter of the natural habitat of exotic animals and plants, but also of its technical (re)production. It is exactly to such a 'reconstructional imperative' (reterritorialising), Sloterdijk claims, that we owe the general concept of environment. Everything began in a relatively innocent way, driven by the desire of the whimsical Englishmen to play host to palm-trees in spite of the rough climate on the island. Sloterdijk explains the genesis of the *Crystal Palace* by reference to such an 'artificial' environment having been created in a 'natural' environment. There is a short way from Joseph Paxton's *Crystal Palace* to Walter Benjamin's 19th century arcades, Victor Gruen's 20th century shopping malls and to Rem Koolhaas' 21st century *Harvard's shopping guide*.²²⁴ But according to

²²¹ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), p. 187.

²²² Mark Pimlott, *Without and Within: Essays on Territory and the Interior* (Rotterdam: Episode Publishers, 2007), 59-61.

²²³ Peter Sloterdijk, "Atmospheric Politics" in *Making Things Public: Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel (Cambridge, MA: MIT Press, 2005), pp. 944-951. Also in Michael Hensel, Achim Menges and Christopher Hight, *Space Reader: Heterogeneous Space in Architecture*, AD Reader 3 (London: Wiley, 2009).

²²⁴ Peter Sloterdijk, "Spheres Theory: Talking to Myself About the Poetics of Space" *Harvard University Graduate School of Design Lecture* (February 17, 2009). "[Benjamin in *The Arcades Project*] starts from the anthropological assumption that people in all epochs dedicate themselves to creating interiors, and at the same time he seeks to emancipate this motif from its apparent timelessness. He therefore asks the question: How does capitalist man in the 19th century express his need for an interior? The answer is: He uses the most cutting-edge technology in order to orchestrate the most archaic of all needs, the need to immunize existence by constructing protective islands. In the case of the arcade, modern man opts for glass, wrought iron, and assembly of prefabricated parts in order to build the largest possible interior. For this reason, Joseph Paxton's *Crystal Palace*, erected in London in 1851, is the paradigmatic building. It forms the first hyper-interior that offers a perfect expression of the spatial idea of psychedelic capitalism. It is the prototype of all later theme-park interiors and event architectures. The arcade heralds the abolition of the outside world. It abolishes outdoor markets and brings them indoors, into a closed

Sloterdijk, in the vein of Bruno Latour the proper question would be the following: Where was the environment before Uexküll? He is quick to offer an answer (Sloterdijk often stages interviews of himself by himself). The answer lies with the post-Socratic Greek philosophers who were already theorists of the greenhouse in their own way. They lay the ground for a theory of environment which was concerned precisely with the milieu or atmosphere and had nothing to do with origins. The birth of political theory in ancient Greece implied a doctrine of living in an 'artificial' creation as an immune system of sorts, according to Sloterdijk: "Not everything that implicitly exists needs to be rendered explicit. An explication covers only those parts of the context of life that can be technically reconstructed [we shall consider the three-dimensional *umwelt* of a tick shortly]. The assumption underlying my undertaking is a metabiological proposition: What we call technology rests on the attempt to replace implicit biological and social immune systems with explicit social immune systems."²²⁵ What the early philosophers called Polis is essentially nothing else than a practical solution for the problem of coexistence of numerous individuals naturalised in the same climate behind a common wall (isolating, selecting, and arranging). It is effectively a 'greenhouse' for people who decided to be 'transplanted' from the *modus vivendi* of separation to the *modus vivendi* of community. In Deleuzian parlance it qualifies as an 'associated milieu'. *Polis* and *Urbs* become two face(t)s of the city: political and infrastructural (code and territory).²²⁶ Scale-(in)dependence aside, Gibson offers a similar take on the issue of a spatialised immune system. Man-made artefacts can be seen as efforts to change and expand the environment. In changing the layout of the environment the man "has made more available what benefits him and less pressing what injures him."²²⁷ Gibson is equally aware that architects cannot take geometric ideologies as their starting point. Instead, as Sloterdijk insists, they need to think

sphere. The antagonistic spatial types of salon and market meld here to form a hybrid. This is what Benjamin found so theoretically exciting: The 19th-century citizen seeks to expand his living room into a cosmos and at the same time to impress the dogmatic form of a room on the universe." Cf. Walter Benjamin, *The Arcades Project* (Belknap Press of Harvard UP, 2002).

²²⁵ Peter Sloterdijk, "Spheres Theory: Talking to Myself About the Poetics of Space" *Harvard University Graduate School of Design Lecture* (February 17, 2009).

²²⁶ See: Pier Vittorio Aureli, *The Possibility of an Absolute Architecture* (Cambridge, MA: MIT, 2011), pp. 6-7. "One can speculate that the Roman *civitas* and *urbs* play complementary role similar to *technè politike* and *technè oikonomike* - of *polis* and *oikos*. But while the *oikos* simply indicates the realm of domestic cohabitation, the *urbs* extends this realm to the structure intended to support the simple aggregation of houses. This structure lies in the space *infra*, or in between them: it is infrastructure."

²²⁷ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 130.

in terms of the 'atmospheric effect of space'. The alternative that this dissertation proposes is to think in terms of ecologies, that is, 'transversally'.

093 **Epistrata** However, we do not see what we speak about, nor do we speak about what we see.²²⁸ The atmospheric effect of space is certainly real yet often incorporeal. This means that phenomenology alone will not suffice. Deleuze takes Foucault's conversion of phenomenology into epistemology to be among his major achievements: "Everything is knowledge, and this is the first reason why there is no 'savage experience': there is nothing beneath or prior to knowledge."²²⁹ It is for this reason that we wish to challenge the ancient dictum 'seeing is believing' as much as its Kantian reversal of 'believing is seeing'. Neither of these is attainable because both are predicated on the inadequate assumption that two separate and isolated systems are involved: perception and cognition, with certain fixed and unidirectional contacts between them.²³⁰ The same applies to the supposed two-stage process of cognition involving 'sense-data' and perception. As we have seen, every living being has multiple milieus. Apart from the exterior and interior milieus, there is the annexed milieu of *parastrata* as the supply of 'the profound secret of existence', namely, respiration (sources of energy different from food), but also of perception/action (discernment of materials/fabrication of compounds).²³¹ [Table xlv] Deleuze and Guattari give an example of the associated milieu of a tick as described by Uexküll. This parastratum interlaces active, perceptive and energetic characteristics: "The unforgettable associated world of the tick, defined by its gravitational *energy* of falling, its olfactory characteristic of *perceiving* sweat, and its *active* characteristic of latching on: the tick climbs a branch and drops onto a passing mammal it has recognised by smell, then latches onto its skin."²³² [emphases added] The associated world of the tick is thus composed of no more than three factors. The associated world of the human must be infinitely more

²²⁸ "Between speaking and seeing, there is no isomorphism, and no conformity, although there exists a mutual presupposition [...]." See: Gilles Deleuze, "Michel Foucault's Main Concepts" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), pp. 246-247.

²²⁹ Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 90.

²³⁰ Traditionally, an organism's coordination of behaviour in the present circumstances of physical and social environments was considered the domain of *perception*, whereas coordination with past and future circumstances belonged to the domain of *cognition*.

²³¹ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 51. See also: Manuel DeLanda, *Philosophy and Simulation: The Emergence of Synthetic Reason* (London and New York: Continuum, 2011), p. 65.

²³² See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 51.

complex. In any case, active and perceptive characteristics are mutually dependent (Deleuze's 'double pincer').

In *The Principles of Natural Knowledge* (1919) Whitehead explains that our perception is a perception from within nature, and *not* an awareness contemplating all nature impartially from without.²³³ We tend to think that we are the ones directing the shifts in our attention but the opposite is the case. Rather than you directing your attention, your attention is directing you in terms of locomotion, posture maintaining and avoidance of obstacles: "Attention is a perceptual automatism that consists of tagging a change in a perceptual field as new and potentially important and building awareness on that change for the very good reason that may signal a necessity of response or opportunity for action."²³⁴

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EXTERIOR	INTERIOR	INTERMEDIARY	ANNEXED
materials furnished by substratum	homeostasis	EPISTRATA mata-stable states	PARAISTRATA respiration perception
c o r e l a t i v e		response/reaction	
+++++			

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Four Milieus of Living Beings: *In addition to the three (quasi-molar) ecologies of Guattari - environmental, social and psychic, Deleuze and Guattari posit (quasi-molecular) ecologies above and below the 'subject'. Each is a Body without Organs (instead of an organism and organisation). All together they form the Body without Organs or the virtual.*²³⁵

Apart from the exterior interior and annexed milieus there is the (fourth) ecology of a living being. A fully formed individual may be capable of a variety of stable states which may be realised by crossing critical points and which give rise to "variations that are tolerated below a certain threshold of identity."²³⁶ These 'intensive states' or milieus are what Deleuze and Guattari call *epistrata*.²³⁷ Forms relate to codes and to the processes of coding and decoding in *parastrata*, that is,

²³³ Alfred North Whitehead, *The Principles of Natural Knowledge* (Cambridge: Cambridge UP, 1919), p. 13.

²³⁴ See: Brian Massumi, "Perception Attack", *Dictionary of War* (2007), http://dictionaryofwar.org/concepts/Perception_Attack (accessed May 25, 2011).

²³⁵ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 51.

²³⁶ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 50.

²³⁷ See: Manuel DeLanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 167.

between the organism and the cosmos. On the other hand, substances – as the formed matters - relate to territorialities and movements of deterritorialisation and reterritorialisation in *epistrata*, that is, between the level of genes and the organism.²³⁸ It goes without saying that there is no simple correspondence between codes and territorialities on the one hand and decoding and deterritorialisation on the other: "An organic form is not a simple structure, but a structuration, the constitution of an associated milieu."²³⁹ In other words, individuation cannot be understood in terms of a physically bounded organism but only through the 'intermediate levels' of *parastrata* and *epistrata*, that is to say above and below the level of organism. Conversely, Deleuze and Guattari argue that, "The organism is that which [nonorganic] life sets against itself in order to limit itself."²⁴⁰

Let us now tentatively superimpose Gibson's cascade (Ambient Optic Array > Occlusion > Affordance) onto Deleuze's three passive syntheses in order to construct the (intermediary) milieu of *epistrata*. [Table xlvi] The first passive synthesis, undertaken by spontaneous imagination, does nothing more than to connect sensibility's passing instants. In doing so, it produces the temporal dimension of *the present*. A second synthesis is needed to prevent us from losing our prior 'apprehensions'. There must be an ability to retain and reproduce what was apprehended in the first synthesis. This is why Deleuze invokes the second synthesis of memory which constitutes the temporal dimension of *the past* in general, of 'that which never was'. Both syntheses are 'blind' since, even if they synthesise sensible matter itself, they take no regard of that matter. They synthesise without reference to content. The past they produce is not a particular past moment, but the virtual. The memory which is constituted does not contain past moments, but the means of producing sensations. The first synthesis, which we associate with Gibson's first step in the Ambient Optic Array, apprehends discontinuous matter (optic flow). The second synthesis 'records' that apprehension in the pure past, a past that has never been the present, the space of reproducibility (Bergsonian cone). For our own purposes, we relate the second

²³⁸ 'Territorialisation' concerns formed materiality, while 'coding' deals with material expressivity. See: Manuel DeLanda, "Deleuzian Social Ontology and Assemblage Theory" in *Deleuze and the Social*, ed. Martin Fuglsang and Bent Meier Sørensen (Edinburgh: Edinburgh University Press, 2006.), pp. 250-266.

²³⁹ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 51. Forms and substances, codes and milieus are abstract components of every articulation.

²⁴⁰ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 503. See also: Rosi Braidotti, "The Politics of Life 'Itself'" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), p. 210. "This is just one life, not *my* life. The life in 'me' does not answer to my name: 'I' is just passing."

step with Gibson's amodal perception of occlusion (invariants). The third synthesis is supposed to unify the other two syntheses. However, this is not the case as the third synthesis fails to do so. At this point in the Deleuzian system, in place of a numerically identical I, there is only a passive and changing 'self'. We want to suggest that the same applies to Gibson's affordances.²⁴¹ There is only an 'ego', and this ego is capable of only one action: contemplation. Being a passive ego, it can only contemplate what is given to it (affordance). It undergoes auto-affection.²⁴² In the words of Marc Rölli:

Deleuze in no way bases the logic of sensation on impressions of sense perception, but rather on the immediate impressions of self-perception. [...] sensations (or forces) are affects that as such imply an individuating self-affection or folding of force on itself.²⁴³

In opposition to (Cartesian) foundationalism, the necessity of (undetermined) *foundation* exists only for *determinable* (yet undetermined) ground, not the final complete determination which remains *ipso facto* only ever reciprocally determined. In other words, the system cannot be deterministic and the nature of this 'circle' is to remain radically open. John Pickering offers the following circle not dissimilar to the one above: "The interpretant encounters the sign [affordance] and the object is produced."²⁴⁴ On this account, selfhood is a process and (asignifying) semiosis becomes a fundamental aspect of the way the living world works: "Semiotically the I-present functions as a sign, the me-past as an object and the you-future as the interpretant. As the self moves down the time-line its semiotic process is constantly transformed, with a past interpretant becoming a present sign and then a future object."²⁴⁵ Our own insistence on the threefold *passive* synthesis - which is not only irreducible but also pre-subjective as there

²⁴¹ By this account the affordance is *not* "a description of environmental *properties* that highlights their behavioral relevance for the animal" [emphasis added], as suggested by Claudia Carello and Michael Turvey in "The Ecological Approach to Perception" in *Encyclopedia of cognitive science* (London: Nature Publishing Group, 2002).

²⁴² By auto-affection we mean the recognition of oneself as a self, a body that effects and knows itself through 'worlding'.

²⁴³ See: Marc Rölli, "Deleuze on Intensity Differentials and the Being of the Sensible" in *Deleuze Studies* (Vol. 3, 2009), p. 39.

²⁴⁴ Pickering's (more active, i.e. logocentric) approach is also built upon Peirce's semiology: "[A]ffordance is a sign for which the organism acts as interpretant to produce action in a given situation as the object. Thus organisms do not merely respond to stimuli, but act on the basis of meaning." Peirce's three-valued sense of the relationship is preferred to Saussure's two-valued sense of the relationship between signifier and signified. See: John Pickering, "The Self Is A Semiotic Process" in *Journal of Consciousness Studies* (Vol. 6, No. 4, 1999), pp. 31-47.

²⁴⁵ Norbert Wiley, *The Semiotic Self* (Cambridge: Polity Press, 1994), p. 14.

is no self-identical 'interpretant' - is meant to pre-empt any naïve attempts at parametricising Gibson's concepts.²⁴⁶ In other words, it is not only the object that is produced by the affordance (sign) but also the 'interpretant' himself.²⁴⁷ Deleuze thus invents a 'semiotics' that would be diagrammatic or cartographic rather than symbolic or iconic, and diagnostic of possibilities rather than explanatory.²⁴⁸

FIRST	SECOND	THIRD
apprehends what was given in sensibility	reproduces what was apprehended	recognises what was apprehended and reproduced but fails
APPREHENSION	REPRODUCTION	CAESURA
imagination	memory	thought
present	pure past	future
<i>foundation</i>	<i>ground</i>	<i>ungrounded</i>

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Three Passive Syntheses (a): *In place of a numerically identical 'I' there is only a passive and changing 'Self'.²⁴⁹*

²⁴⁶ There have been numerous attempts at formalisation of affordances. For example, fixing the Aperture/Shoulder width ratio: $A/S = \pi = 1.3$. See: William H. Warren and Suzanne Whang, "Visual Guidance of Walking Through Apertures: Body-Scaled Information for Affordances" in *Journal of Experimental Psychology: Human Perception and Performance* (Vol. 13, No. 3, 1987), pp. 371-383. Another example is an affordance analysis of stair climbing - the ratio between the riser height (R) and the climber's leg length (L) - $R/L = \pi$. In any case, such an affordance analysis, according to Warren, has three major advantages over traditional anthropometry: "First, it is dynamic and task specific, analyzing actions as they are actually performed rather than relying on static anatomical measurements. Second, the analysis yields π numbers, i.e., body-scaled values for actors of any absolute size. The designer can then use ratios to translate known anthropomorphic data into affordance values for a specific population - men, women, children, the elderly, and so on [sic]. Finally, the method considers not just physical dimensions of the environment, but also the perceptual basis for successfully guiding action within it." The attempt to overcome the fallacy of the 'average man' is praiseworthy but ultimately doubtful from our point of view. See: William H. Warren, "Constructing an Econiche" in *Global Perspectives on the Ecology of Human-Machine Systems (Resources for Ecological Psychology Series)*, ed. John M. Flach et al. (Hillsdale, NJ: CRC Press, 1995), p. 230. For an overview see: Jonathan R.A. Maier and Georges M. Fadel, "An Affordance-based approach to architectural theory, design and practice" in *Design Studies* (No. 30, 2009), pp. 393-414.

²⁴⁷ The Gibsonian 'reversal' that gives a new status to the sign - neither empirical object nor something experienced in the mind - resonates with Heidegger's (hermetic) notion of the 'fourfold.' See: Martin Heidegger, "Building Dwelling Thinking" in *Poetry, Language, Thought* (New York: Harper and Row, [1951 lecture] 1971), pp. 145-161.

²⁴⁸ John Rajchman, *The Deleuze Connections* (Cambridge, MA: MIT, 2000), p. 67.

²⁴⁹ Joe Hughes, *Deleuze's Difference and Repetition* (London and New York: Continuum, 2009), p. 100. See also: Gilles Deleuze, *Difference and Repetition* (New York: Columbia

Resetting ourselves in a metaphysical perspective, as Meillassoux suggests, permits us to reconstruct our existence beyond faith alone or the sole opportunism of interest.²⁵⁰ The mesolevel of ecology allows for such 'resetting' as systematically outlined by Heft in his *Ecological Psychology in Context* (2001).²⁵¹ This is most pertinent given the resilience in architectural thinking of Newtonian Physics coupled with Cartesian Metaphysics. Moreover, a hundred and fifty years since the publication of Darwin's *Origin of the Species* (1859) the treatment of the environment both in psychology and architecture remains largely unchanged. A pre-Darwinian would argue that the particular is governed by imposed abstract principles. With post-Darwinian thinking the particular is not seen as discrete and unrelated, but as related and interdependent.²⁵² As we have seen, Gibson inverts the view of perceiving. Instead of adopting a picture theory of vision which considers movement as hindrance, he proposes that it is precisely movement that enables perception: "[A] static picture is only the null case of motion."²⁵³ If, as the ecological framework proposes, perceiving fundamentally involves the detection of invariants that are typically revealed over time in the context of change, then 'the present' takes on a more extended meaning than

UP, [1968] 1994), p. 101. "The *foundation* concerns the soil: it shows how something is established upon this soil, how it occupies and posses it; whereas the *ground* comes rather from the sky: it goes from the summit to the foundations, and measures the possesor and the soil against one another according to a title of ownership." [emphases added]

- ²⁵⁰ Interview with Meillassoux, <http://steve-harris.blogspot.com/2010/02/interview-with-meillassoux.html> (accessed May 25, 2011). See also: Félix Guattari, "Everybody Wants To Be A Fascist" in *Chaosophy*, ed. Sylvère Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 160-161. "Subjects and object are no longer face-to-face, with a means of expression in a third position; there is no longer a tripartite division between the realm of reality, the realm of representation or representativity, and the realm of subjectivity. You have a collective set-up which is, at once, subject, object, and expression. The individual is no longer the universal guarantor of the dominant meanings. Here, everything can participate in enunciation: individuals, as well as zones of the body, semiotic trajectories, or machines that are plugged in on all horizons. The collective disposition of enunciation thus unites semiotic flows, material flows, and social flows, well short of its possible recuperation within a theoretical corpus."
- ²⁵¹ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001).
- ²⁵² Thomas J. Lombardo, *The Reciprocity of Perceiver and Environment: The Evolution of James J. Gibson's Ecological Psychology* (Hillsdale, NJ: L. Erlbaum Associates, 1987), p. 119.
- ²⁵³ See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 176.

usual.²⁵⁴ Thus, perceiving (invariants) becomes both prospective and retrospective. Attention entails both protention and retention and is not based on the chain of remembering - perceiving - imagining because the environment is not in the head!²⁵⁵ The concept of affordances highlights the congruence between structural features of the environment and functional possibilities for the perceiver. The standard approach of conceptualising the environment in physical terms typically leaves it relatively unstructured and shifts enormous epistemic burden on cognitive processes. By contrast, radical empiricism is grounded in the view that experience is a relational field of potential structure from the very outset, rather than a formless chaotic swirl onto which structure must be imposed by cognitive processes: "It is agency operating within constrains, and the constrains contribute to the shape actions take over time. Taken in conjunction with the actions of an agent, constraints are not merely limiting, but they create possibilities."²⁵⁶ It could be argued that action and perception are functions of a history of acting and perceiving the same way as development itself is of that history or virtuality. Habituation, memory, learning, adaptation, and development all form one seamless topology built through a process over time (activities in the real world).

According to the Nobel Prize winner Daniel Kahneman there are two breakthroughs happening in psychology today: "One, of course, is everything that's got to do with the brain, and that's dominating psychology. But there is something else that is happening which started out from a methodological innovation as a way to study memory."²⁵⁷ He is referring to the 'priming paradigm'. Kahneman explains that it is under the latter that we begin to question the source of the control of behaviour. It is not where we think it is as it turns out to be a lot more related to the environment. According to the enactivists Alva Noë and Kevin O'Regan, priming is an outcome of incorporeal happenings where a situation has been set up and the body has been oriented to the situation, including all the tendencies to the possible outcomes within it. This is a very complex *existential* (not subliminal) posture that prepares the possibility of both

²⁵⁴ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 200), p. 178.

²⁵⁵ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 200), p. 285.

²⁵⁶ Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 200), p. 317.

²⁵⁷ Daniel Kahneman is a psychologist at Princeton University, the laureate of the 2002 Nobel Prize in Economics. See: Daniel Kahneman, "Two Big Things Happening in Psychology Today" http://www.edge.org/3rd_culture/thaler_sendhil08/class4.html (accessed May 25, 2011).

non-conscious awareness and conscious elaboration.²⁵⁸ In the words of Spuybroek:

The human body is not an archive, it is not a cabinet with millions of drawers where we just pick the willed action out of the drawer when we need it. No, memory interacts with the present, and, as modern neurologists tell us, memory is not a fixed archive, it's a plastic, flexible system of interconnections, where often repeated movements (putting on coat, getting knife out of drawer, etc., etc) share the same space with new and unknown actions. There are tendencies, inclinations, next to pure habits and routines, next to desires, hesitations, mistakes, forgettings, etc. - many movements interact, group and overlap with others. This tension within the body is given, there is always the tension between that what we think we should do and what we actually do.²⁵⁹

094 **Spatium** The concept of a permanent environment of objects is widely accepted, unlike the concept of a quasi-permanent environment of *potential* stimuli which are energies and not objects. Animals, and children until they learn geometry, pay attention to the affordances of layout rather than its properties. Although *logically* one advances from space to affordance, developmentally the progress is in the opposite direction: "the metaphor of filling is wrong. Time and space are not empty receptacles to be filled; instead, they are simply the ghosts of events and surfaces."²⁶⁰ Gibson's word of caution dating back to 1960, that we must not understand natural stimuli by analogy and by way of socially *coded* stimuli, is more pertinent than ever. Experience simply resists formalisation.²⁶¹ Ironically

²⁵⁸ J. Kevin O'Regan and Alva Noë, "Sensorimotor account of vision and visual consciousness" in *Behavioral and Brain Sciences* (No. 24, 2001), pp. 939-1031.

²⁵⁹ Lars Spuybroek, "Sensograms at Work: In Conversation with Cho Im Sik in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 149.

²⁶⁰ See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 101.

²⁶¹ See: Katherine Hayles, *My Mother was a Computer: Digital Subjects and Literary Texts* (Chicago: The University of Chicago Press, 2005), p. 123. "Next to shit, perhaps the most conspicuous instance of the extent to which the world resists algorithmization is sexuality. Lawrence hypothesizes an inverse relation between his level of sexual frustration and his ability to work, but just when he thinks he can graph the relationship effectively, he discovers that sexual satisfaction is a more complex function than he imagined, depending not only on the time passed since his last ejaculation but also on how the ejaculation was accomplished - by a 'manual override:' a prostitute, or someone with whom he is emotionally involved. 'In other words, the post-ejaculatory horniness level was not always equal to zero, as the naive theory propounded above assumes, but to some other quantity dependent upon whether the ejaculation was induced by Self or Other' 'His life,' he concludes, 'which used to be a straightforward set of basically linear equations, has become a *differential* equation'."

this truism has been exploited not by architects but by *imagineers*. As Chuihua Judy Chung points out in his *Disney Space*, "the architecture on the park's Main Street, USA, is composed of several scales: first floors are about 90 percent full scale, second floors about 80 percent, and third floors or roofs about 50 to 60 percent."²⁶² The systematic foreshortening through the control of scale and manipulation of perspective is key to the creation of a particular ambiance. Despite the populist effect it produces, which can be described as 'cosy', one cannot but acknowledge the skill and know-how of Disney's *imagineers*. Similar craftsmanship in spatialisation is demonstrated by the Soviet filmmaker and theorist Eisenstein. In his *Montage and Architecture* written between 1937 and 1940, the author reproduces a montage sequence for an architectural *ensemble* of the Acropolis.²⁶³ Drawing upon Auguste Choisy's *Historie d'architecture* (1899), Eisenstein shows how oblique views are more affective than frontal which arguably made them more preferable to the ancients.²⁶⁴ Again, it is a matter of disregarding the privileged instant (symmetry) for the remarkable or singular instant which can only be extracted from any-instant-whatever. Deleuze's example from the cinema is helpful:

Let us return to the cinema's prehistory, and to the famous example of the horse's gallop: this could only be dissected exactly by [Étienne-Jules] Marey's graphic recordings and [Eadweard] Muybridge's equidistant snapshots, which relate the organised whole of the canter to any -point-whatever. If the equidistant points are chosen well, one inevitably comes across remarkable occasions; that is, the moments when the horse has one hoof on the ground, then three, two, one. These may be called privileged instants, but not in the sense of the poses or generalised postures which marked the gallop in the old forms.²⁶⁵

²⁶² Chuihua Judy Chung, "Disney Space" in *Harvard Design School Guide to Shopping*, ed. Rem Koolhaas et al. (Köln: Taschen, 2001), pp. 270-298.

²⁶³ Sergei M. Eisenstein, "Montage and Architecture" in *Assemblage* (No. 10, [ca. 1938] 1989), pp. 111-131. See also: Anthony Vidler, *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, MA: MIT, 2000), pp. 117-122.

²⁶⁴ Auguste Choisy, *Historie de l'architecture*, 2 Volumes (Paris: Gauthier-Villars, 1889).

²⁶⁵ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 5. See also: Bruno Latour and Alben Yaneva, "Give Me A Gun and I Will Make All Buildings Move: An Ant's View of Architecture" in *Explorations in Architecture*, ed. Reto Geiser (Basel: Birkhäuser, 2008), p. 80. "Our building problem is just the opposite of Etienne Jules Marey's famous inquiry into the physiology of movement. Through the invention of his 'photographic gun,' he wanted to arrest the flight of a gull so as to be able to see in a fixed format every single successive freeze-frame of a continuous flow of flight, the mechanism of which had eluded all observers until his invention. What we need is the reverse: the problem with buildings is that they look desperately static. It seems almost impossible to grasp them as movement, as flight, as a series of transformations." See also: Erin Manning, "Grace Taking Form: Marey's Movement Machines" in *Relationescapes*;

When one relates movement to any-moment-whatever, one must be capable of thinking the production of the new, that is to say, of the remarkable and the singular, at any one of these moments. Duration is neither linear nor chronological. Rather it presumes at each instant an unceasing opening onto an indeterminate future. Similarly, any-space-whatever [*espace quelconque*] is a perfectly singular space, explains Deleuze, which has merely lost its homogeneity, the principle of its metric relations or the connection of its own parts. Consequently, linkages can be made in an infinite number of ways.²⁶⁶ "And just as the image must attain the indefinite, while remaining completely determined, so space must always be any-space-whatever, disused, unmodified, even though it is entirely determined geometrically."²⁶⁷ The unique capability of imagineers, film directors and, according to Gibson, magicians, to supersede the extensive (state of things) in order to engage the intensive (qualities and powers) is unappreciated by the discipline of architecture which remains all too positivist. This is not surprising, according to Guattari, as "the paradigms of techno-science place the emphasis on an objectal world of relations and functions, systematically bracketing out subjective affects, such that the finite, the delimited and coordinatable, always takes precedence over the infinite and its virtual references."²⁶⁸ Meanwhile, marketing specialists continue setting wristwatches and clocks at ten past ten which is not necessarily to be characterised as mere anthropomorphism. We cannot afford to dismiss these 'smiles without the clock' under the pretence of a high-brow attitude. The demonstrated level of craftsmanship in the production of effect by imagineers and advertisers, albeit for their own purposes, reveals a deep understanding of the affective approach where the thing is power and not form. As William Connolly suggests, there are more

Movement, Art, Philosophy (Cambridge, Massachusetts and London, England: MIT Press 2009), pp. 83-111.

²⁶⁶ Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 109. See also: Gilles Deleuze, "Postscript to the American Edition: A return to Bergson" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 336. "[J]ust as physics related movement to privileged moments and positions, metaphysics constituted transcendent, eternal forms as the source of these positions. But so-called modern science begins, on the contrary, when movement is related to 'any instant': it calls for a new metaphysics that only considers immanent and constantly varying durations."

²⁶⁷ Gilles Deleuze, "The Exhausted" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 160. "All these images compose and decompose themselves. The 'Pings' which activate the images, are mixed together with the 'Hups' which activate strange movements within the spatial directions."

²⁶⁸ Félix Guattari, "New Aesthetic Paradigm" in *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p. 100.

intense vague existential dispositions in which creed and affect mix together below the ready reach of change by reflective considerations alone: "It also touches those feelings of abundance and joy that emerge whenever we sense the surplus of life over the structure of our identities. That is the surplus Deleuze seeks to mobilize and to attach to positive political movements that embrace minoritization of the world."²⁶⁹ Semiotics remains flawed because it does not get us out of structure and prohibits us from entering the real world of the machinic (structuration). "The structuralist signifier is always synonymous with linear discursivity," whereas heterogeneous machines refuse to be "at the mercy of a universal temporalisation."²⁷⁰ The limit of something, as the Stoics taught us, is the limit of its action and not the outline of its figure. Even if it is just perceived. As a matter of fact, especially when it is perceived. The tendency is already a movement without the actual movement, according to Massumi.²⁷¹ Things will look as they do because they afford what they do (when they do). According to Gibson, herein lies the possibility for a new theory of design:

We modify the substances and surfaces of our environment for the sake of what they will afford, not for the sake of creating good forms as such, abstract forms, mathematically elegant forms, aesthetically pleasing forms. The forms of Euclid and his geometry, abstracted by Plato to the immaterial level, have to be rooted in the substances and surfaces and layouts that constrain our locomotion and permit or prevent our actions. [...] What one sees as he looks around is not a patchwork of forms but the possibilities of support, of falling, of resting, of sitting, of walking, of bumping into, of climbing; of taking shelter, of hiding, of grasping, of moving movable things, of tool using, and so on and on.²⁷²

Indeed, and so on, and so on, and so on. Signs and images are irreducible to language and code. While the former are related to truth and proposition, the

²⁶⁹ See: William E Connolly, "Materialities of Experience" in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham and London: Duke UP, 2010), p. 196.

²⁷⁰ See: Félix Guattari, *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p. 48.

²⁷¹ Brian Massumi, "Building Experience; The Architecture of Perception" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p. 324.

²⁷² See: Edward S. Reed and Rebecca Jones, *Reasons for Realism, Selected essays of James J. Gibson* (Hillsdale, NJ: L. Erlbaum, 1982), p. 415. "The course in 'basic design' with which architects now begin their training is a fault, I believe. It teaches graphics, on the assumption that an understanding of 'form' is as necessary for architects as it is presumably for painters. But no one is ever going to understand 'form', in my opinion. The use of the term only promotes confusion. What architects are concerned with is the layout of surfaces."

latter belong to the logic of sense and event. The architectural design needs to develop the ability to address bodies on the level of their *potential* movement. This in turn requires operating below the level of object recognition, familiar function and cultural decoding. For Massumi, this means connecting to the bodies at the level of force.²⁷³ His requirement that cultural decoding be temporarily suspended might not be as difficult as we thought. On the contrary, the ultimate lesson that we learned from Las Vegas thirty years on is that "This won't kill that." By way of anticipating our argument in the next chapter, let us suggest that the semiotic surface is not the match for the (a-signifying) figural. The duck is not to be dismissed yet.²⁷⁴

²⁷³ Brian Massumi, "Building Experience" in *NOX Machining Architecture*, ed. Andrew Benjamin and Lars Spuybroek (London: Thames & Hudson, 2004), p. 328.

²⁷⁴ Venturi wrongly predicted that the perception of semiotic surfaces of architecture (decorated shed) would overtake the experience of urban space in the traditional sense as volumetric, type form (duck). The name comes from a famous duck-like building on Long Island housing an unpretentious restaurant specializing in poultry. See: Rem Koolhaas and Hans Ulrich Obrist, "Re-learning from Las Vegas; Interview with Denise Scott Brown and Robert Venturi" in *Content* (Köln: Taschen, 2004), pp. 150-157.

Chapter Five ARCHITECTURE OF IMMANENCE

An architect's desire to be nameless is no false modesty; on the contrary, it is an expression of the highest ambition.¹
(B. van Berkel and C. Bos, 1999)

Bodies try to transgress themselves in time by action, throwing themselves into time, that is: connect to other bodies, other rhythms, other actions. In this sense, you can really only talk about 'space' as a result of an experiential body timing its actions. Space is never a given. There can be space in time, but not the other way round.² (L. Spuybroek, 1998)

The thing that was really brilliant about the first generation of New York architects is that they were extremely intelligent while still managing to avoid being so self-aware that they had to automatically distance themselves from their own self-awareness. [...] Most masterworks have been a result of this combination of intelligence and innocence. They embodied a collective ideal while at the same time managing to provide a distanced commentary on it; they enabled the aspirations of the collective to coincide effortlessly with those of their client. I had the idea that this was something we would never see again. That we were condemned to consciousness.³ (R. Koolhaas, 1994)

¹ Ben van Berkel and Caroline Bos, *Move: (3) Effects: radiant synthetic* (Amsterdam: UN Studio & Goose Press, 1999), p. 26.

² E-mail interview with Lars Spuybroek by Andreas Ruby "Where Space Gets Lost" in *The Art of the Accident*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2_Publishing, 1998), p. 138

³ Interview with Rem Koolhaas by Ole Bouman and Roemer van Toorn, "Architecture at Remdom; The Blinkers that Make the Visionary" in *The Invisible in Architecture*, ed. Ole Bouman and Roemer van Toorn (London: Academy Editions, 1994), p. 452.

5.1 Beyond Un-Forgetting and Un-Recalling

095 **Flying Dutch**⁴ This chapter is an attempt at schizoanalysis of three Dutch contemporary architectural practices, namely, UN Studio (UNS), NOX and OMA, by reference to Deleuze and Guattari's concept of *Conceptual Persona* from *What is Philosophy?* (1991).

Scholarly accounts of the Dutch Renaissance suggest that, in contrast to the organic force of their Italian contemporaries, the Dutch painters set themselves apart with a genuinely new haptic painterly tradition effectively creating an abstract machine with its power of repetition. It is with the seventeenth century Dutch painter Johannes Vermeer that the unleashing of affect is first seen, making him the harbinger of the Deleuzian *Northern line*. However, the most important 'Dutchman' in the eyes of Deleuze is Spinoza, the 'prince of immanence'. Deleuze's Spinoza will provide the imageless image of thought - Body without Organs (BwO) - implicitly present in the presupposed 'flat ontology' underlying our argument. As Claire Colebrook recently argued, the haptic is not to be confused with the tactile, a touch effected by the commanded hand. Rather, it stems from the BwO, neither distributed nor organised around the mind (yet), nor oriented toward cognition: "the haptic would be the violation of thought's mastery of itself."⁵

Working from desiring assemblages, Deleuze and Guattari circumvent the phenomenon of ideology as a mere epiphenomenon. By the same token, we propose to treat architecture in terms of *passive synthesis* which undermines the active synthesis of representation. Ever since *Difference and Repetition* (1968) Deleuze has been seeking to overcome Kantian Transcendentalism in favour of an ontology of temporal difference, with temporal syntheses situated in things rather than in the human relation to things. In the words of James Williams:

There is freedom in Deleuze's philosophy of time, not in free will but in a multiplicity of open futures at work in any present and transforming all of the past. The future is not in anyone's hands, since they too are made by passive syntheses of time, but neither is the future closed down and determined. Instead, living with Deleuze's philosophy of time involves a complex and experimental

⁴ The legend of the *Flying Dutchman* concerns a ghost ship that can never make port, doomed to sail the oceans forever. It probably originates from 17th-century nautical folklore.

⁵ See: Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), p. 33.

negotiation with many times and with the undoing of strict determination, of subjective grounds and of appeals to eternal values or laws.⁶

The (schizo)analysis requires laying the (pre-philosophical) plane of immanence *qua* Spinoza, creating the concept *qua* Vermeer, and inventing the conceptual personae (aesthetic figures) of UNS, NOX and OMA; the problem, the solution and the unknown, respectively. Let it be emphasised that it is not the architects who invent their conceptual persona. Rather, it is the conceptual persona that infuses their body of work with a certain (endo)consistency formerly known as style. In other words, the conceptual persona counter-effectuates the event.

The better part of this chapter addresses the triad of *conceptual personae* in an effort to denounce architectural complicity with the diacritical in general. As the process of *decoding* (towards a BwO) requires descending to the a-personal and pre-subjective level, we turn to the *passive synthesis* of time as elaborated in Deleuze and Guattari's two seminal volumes that share the subtitle of *Capitalism and Schizophrenia*.⁷ Consequently, a distinction is made between the *Connective* UNS, *Disjunctive* NOX, and *Conjunctive* OMA, each with an avatar of the desiring machines (always already plugged into the social field), these being respectively: *Paranoiac*, *Miraculating* and *Celibate*. Of course, the extra-propositional and sub-representative level of thought-events that comprise these three dispositions require a mode of analysis which cannot rely on the fully actual, for this would inevitably lead to the fallacy of tracing or conflating the material cause with the incorporeal effect which, as we will argue instead, becomes the quasi-cause via reciprocal determination. In other words, here we shall strictly avoid conflating the concrete with the abstract, a practice that appears all too frequently when architects attempt to put Deleuzian concepts to use.⁸ We articulate, instead, specific Deleuzian theories which, when set against these contemporary architectural practices, will effectively deterritorialise the *Deleuzian Strata* of Dutch Architecture.

⁶ See: James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), pp. 17, 25. "The contraction is not a ground for something else, or a first, or prior, or essential synthesis. Rather it is originary in the sense of giving rise to time; time is made by contraction, it neither pre-exists it nor stands as a condition or container for it. In stating that contraction forms a synthesis, Deleuze is setting time as something formed by a process: a contraction."

⁷ *Anti-Oedipus* can be said to have effected an immanent inversion of Kant. It is no longer concerned with the synthesis of consciousness, but with the synthesis of the unconscious. See: Daniel W. Smith, "The Inverse Side of the Structure: Žižek on Deleuze on Lacan" in *Criticism* (No. 46.4, 2004), pp. 635-650.

⁸ We refer, for example, to literal folding as a widespread practice in architecture over the past decade.

5.1.1 First Triad: *Novecento*

096 **De-Re-Territorialisation** In his review of Rafael Moneo's *Theoretical Anxieties and Design Strategies in the Work of Eight Contemporary Architects* (2005) Jeffrey Kipnis offers, as an aside, a highly original exercise of a Deleuzian-inspired de-re-territorialisation.⁹ [Table xlvii] As ever, committed to the project of meta-critique, he chooses to engage no less than the high-modernist 'heavy-weights', namely, Le Corbusier, Ludwig Mies van der Rohe (and Frank Lloyd Wright elsewhere).¹⁰ If we disregard the proper names (and nicknames) of these charismatic masters and treat them as *conceptual personae* we might be able to give an account not of what they contributed to the discourse but rather how they came to be through the non-discursive. Only then will we be able to answer the question of what makes their work a unity without reference to the overstated agency of the subject.¹¹ In the words of Deleuze:

We have given up seeking a unity that would unify the parts, a whole that would totalize the fragments. For it is the character and nature of the parts or fragments to exclude the Logos both as logical unity and organic totality. But there is, there must be a unity that is the unity *of* this very multiplicity, a whole that is the whole *of* just these fragments: a One and a Whole that would not be the principle but, on the contrary, 'the effect' of the multiplicity and of its disconnected parts. One and Whole that would function as effect, effect of machines, instead of principles.¹²

This alternative kind of unity is the one which results from, and is discovered by, the three architects as an *effect* of their architecture. Another name for this endo-consistency is *style* which is "never a matter of the man, it is always a matter of essence (nonstyle)."¹³ Kipnis identifies Le Corbusier's design strategy as a whole in what is usually hastily labelled as the 'free-plan' (*Plan libre*), namely, "to

⁹ Jeffrey Kipnis, "Moneo's Anxiety" in *On Criticism, Harvard Design Magazine* (Fall 2005), pp. 97-104.

¹⁰ Jeffrey Kipnis, "Discriminations", *GSD lecture*, (October 18, 2006), <http://harvard.vo.llnwd.net/o18/gsd/JKipnis.mp4> (accessed May 25, 2011).

¹¹ Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham and London: Duke UP, 2010), p. 23. "[B]odies enhance their power in or as a heterogeneous assemblage. What this suggests for the concept of agency is that the efficacy or effectivity to which that term has traditionally referred becomes distributed across an ontologically heterogeneous field, rather than being a capacity localized in a human body or in a collective produced (only) by human efforts."

¹² Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 108.

¹³ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), pp. 105-106.

architectural devices - that is crucial, according to Kipnis. To free the ground as datum, Le Corbusier lifts the platform far up. As a result, the entrance door - given that it inevitably re-establishes the priority of the ground - acquires an ambiguous status which effectively undermines the Conceptual Project. By contrast, Mies barely lifts the platform off the ground precisely to allow for access (entryway - stairs - door series) and transforms it into a theatrical stage of sorts. Mies is notoriously less political and more performative. His Performative Project seems to be less interested in reconstituting a political ground than in creating a retreat from it. According to Kipnis' analysis, no practice has made more cunning use of the differences between Le Corbusier's free-plan and Mies' stage-plan than Koolhaas':

[OMA] has synthesized the two into an architecture that, in its critique of the two, posits a fundamental shift in the liberal project from the Modernist pursuit of democracy as a collective ideal (in the future) to a contemporary desire to instantiate individual freedom (in the present). In that revision, the metropolis is reconceived not as artifice or traditional city but as an ur-zone uniquely capable of staging being as emancipation, the delirium of New York. His architecture infuses the political dimension of Le Corbusier's free-plan with the performance qualities of the Mies's stage-plan. The free-section, then, is the necessary invention; a recasting of the metropolis's vertical infrastructure into a building device to achieve the unregulated anonymities - and thus stage the unfettered behaviors - that are not possible in free-plan. Free-section is at best indifferent to the sublime, to awe-inspiring vistas and panoptic perspectives; if it has an optical character at all, it would be that of inexorable voyeurism.¹⁶

The third variation, of course, is Wright's. In opposition to his European peers, the American works with the ground to pursue the project of New Authenticity.

5.1.2 The Second Triad: Turn of the Century

097 **Small and Large Form** Fast forward to the turn-of-the-century Netherlands, "the only land God did not create."¹⁷ From the perspective of architecture theorist Roemer van Toorn we can identify three tendencies in the realised (avant-garde) production: Projective Autonomy, Projective Mise-en-scène, and Projective

¹⁶ Jeffrey Kipnis, "Moneo's Anxiety" in *On Criticism, Harvard Design Magazine* (Fall 2005), p. 103.

¹⁷ One fifth of the country has been reclaimed from the North Sea (and marshes and swamps). Today, approximately one quarter of The Netherlands is actually below sea level.

Naturalisation.¹⁸ [Table xlvi] The attribute 'projective' is meant to suggest van Toorn's distancing from the critical tradition. We shall drop it for the sake of simplicity. According to the Dutch critic, Autonomy revolves around the "self-sufficiency of tasteful, subdued form, which, notwithstanding the vicissitudes of life or passing dreams, is in theory capable of enduring for centuries." The conceptual persona that counter-effectuates this event is Claus and Kaan. It is 'legitimate' to use the term in singular despite the plural authorship.¹⁹ By contrast, *Mise-en-scène* turns "life into an optimistic and cheerful play that generates new solutions while making jokes about our constantly mutating reality." If Autonomy is Habermasian in its ambition to continue the unfinished project of Modernity, then *Mise-en-scène* is, by any account, quintessentially postmodern. But while it is appropriate to distinguish between the conceptual personae of the first triad, the second triad - given the projective commitment of van Toorn - may be more appropriately approached via aesthetic figures instead. Let us recall that aesthetic figures produce affects and percepts in the Deleuzian sense. They are inseparable from an *agencement* or assemblage comprising blocks of sign qualities, or what Deleuze and Guattari call a compositional plane.²⁰ The plane of composition which put The Netherlands on the international map of contemporary architecture is the Dutch Hannover Pavilion (2000/MM) by the aesthetic figure of MVRDV. No other architectural diagram has been that influential in architecture schools ever since.²¹ According to van Toorn, paradoxically its appeal lies in the 'strangeness' acquired by Hyper-Rationalism.²² The Pavilion offered 'the stacks of landscape': offices on the ground floor, dunes on the first floor, glass house on the second floor, pots on the third, forest on the fourth, rain floor on the top and last but not least windmills on the roof. A better way to describe it to a non-architectural audience would in fact be the following:

¹⁸ Roemer van Toorn, "After Criticality: The Passion for Extreme Reality in Recent Architecture... And its Limitations" in *Crossover*, ed. Arie Graafland and Leslie Kavanaugh (Rotterdam: 010 Publishers, 2006). pp. 170-183.

¹⁹ The errant multiplicity of personality is captured in the opening remark by Gilles Deleuze and Félix Guattari in *A Thousand Plateaus*: "The two of us wrote *Anti-Oedipus* together. Since each of us was several, there was already quite a crowd." See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 3.

²⁰ For the relevance of the philosophical notion of the 'plane of composition', from the idea of composition as understood within the discipline of architecture, see: Deborah Hauptmann, "A no(ta)tion on composition" in *Architectural Design and Composition*, ed. Clemens Steenbergen, Henk Muhl, Wouter Reh and Ferry Aerts (Bussum, Thoth Publishers, 2002), pp. 74-77.

²¹ Although its origin may be traced to Chapter 6 of Koolhaas' *Delirious New York*. See: Arie Graafland, "Opening Debate" in *Indesem 2000* (TU Delft, 2002), pp. 45-46.

²² The champions of such an approach in the world of industrial design are, according to van Toorn, the Amsterdam-based Droog Design.

<http://www.droog.com/> (accessed May 25, 2011).

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Make no mistake, this ultimate 'datascape' did count on the inter-changeability of the signifier and the signified, and quite literally so.²³ It triggered a boom in architectural publications whose numerous pages were filled with images while words mostly served as captions to architectural drawings.²⁴ If we appropriate a term from Deleuze's Cinema books, the Pavilion would qualify as a *small form*, but on steroids (AsA'), given its almost exclusive focus on programmatic issues (action). This takes us back to the difference between the small and large forms from Chapter One, which are associated with the additive (connective/tectonics) and subtractive (disjunctive/stereotomy) principles, respectively. Deleuze associates the small form with the ASA' formula, from action to situation to new action, whereas the large form moves from situation to action to transformed situation - SAS'. The former is a gradually formed organism in an equivocal organisation, while the latter is a large organism which embraces organs and functions.²⁵

There is a degree of kinship with Stan Allen's distinction between what he, perhaps too pejoratively, calls a 'dumb practice' and a 'dumb theory'.²⁶ The

²³ A good example is Minnaert Building (1997) by Neutelings and Riedijk Architects in De Uithof Campus of Utrecht University. The building's signature feature are storey-high letters that spell MINNAERT on the ground floor.

²⁴ "Today, every Dutch office with a substantial portfolio boasts a monograph with an essay by a sympathetic commentator. The leading critics ventured into the encyclopaedic genre, in which taxonomies, meaningful distinctions and position-taking is made subservient to the presentation of plurality as a virtue. Books like Hans Ibelings' *The Artificial Landscape* (2000) and Bart Lootsma's *Superdutch* (2000) successfully raised the cultural prestige of Dutch architecture, which became a successful export product." See: Hans van Dijk, "Critical project or the project of criticism?" in *The architectural annual 2003-2004*, ed. H Bekkering, D Hauptman, H de Jonge, H Veldhuizen, & H Wanders (Rotterdam: 010 Publishers, 2005), p. 74.

²⁵ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), p. 163.

²⁶ Stan Allen, *Practice: Architecture, Technique & Representation* (Amsterdam: Gordon & Breach, 2000), pp. xvi-xvii. Allen's resolution of the impasse is 'pragmatic realism' where

former designates the building as a subset/resultant of professional codes and conventions, which are continually deformed to accommodate contingency, while the latter refers to the building as a subset/resultant of the codes and conventions of theory, which turn inward to protect the building from contingency. We have witnessed such ancestral opposition between the 'neorealism' of Scott Brown and Venturi and the 'neorationalism' of Rossi.²⁷ From this perspective, and considering the vector of the previous modernist triad, *Mise-en-scène* is, as a project, *as admirable as it was unavoidable*. Whatever it was that held the old avant-garde back - be it technological or ideological restrictions - is no more.

There could be no greater contrast with the Autonomy project. For its part, it did not resist radicalisation of its *large form* (SaS'): from situation to transformed situation via the intermediary of the almost negligible action. In other words, the 'action' in this case seems to be almost in the way of the 'situation'. In the plane of composition of the Netherlands Forensic Institute (2004) even the choice of the colour black for finish is consistent with the 'large form on steroids'. It does not allow for reflection as it would with a *white wall*, but asserts its absolute autonomy by precluding or even absorbing any aleatory movement (*black hole*). We are, of course, referring to the White wall / Black holes as the basic ingredients - signification (signifiante) and subjectification - of Deleuze and Guattari's concept of faciality.²⁸ At this point it may indeed seem that architecture has approached a certain limit condition and become trapped between two opposing tendencies. The impasse has been anticipated by Deleuze and Guattari:

The social axiomatic of modern societies is caught between two poles and is constantly oscillating from one pole to the other. Born of decoding and deterritorialization, on the ruins of the despotic machine, these societies are caught between the Urstaat that they would like to resuscitate as an overcoding and reterritorializing unity, and the unfettered flows that carry them toward an absolute threshold. They recode with all their might, with world-wide

practice is seen as the intersection of architecture's inside and its outside: two open sets overlap to form an indeterminate figure.

²⁷ Michael K. Hays, *Architecture's Desire: Reading the Late Avant-garde* (Cambridge, MA: MIT, 2010), p. 10.

²⁸ "Signifiante is never without a white wall upon which it inscribes its signs and redundancies. Subjectification is never without a black hole in which it lodges its consciousness, passion, and redundancies. Since all semiotics are mixed and strata come at least in twos, it should come as no surprise that a very special mechanism is situated at their intersection. Oddly enough, it is a face: the *white wall/black hole* system." See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 167.

dictatorship, local dictators, and an all-powerful police, while decoding - or allowing the decoding of - the fluent quantities of their capital and their populations. They are torn in two directions: archaism and futurism, nearchaism and ex-futurism, paranoia and schizophrenia. They vacillate between two poles: the paranoid despotic sign, the sign-signifier of the despot that they try to revive as a unit of code; and the sign-figure of the schizo as a unit of decoded flux, a schiz, a point-sign or flow-break. They try to hold on to the one, but they pour or flow out through the other. They are continually behind or ahead of themselves.²⁹

098 **Smooth Space** Despite his critique of the Critical tradition, Van Toorn seems to be equally critical of the lack of critical attitude on the part of the Projective Trajectory: "The touchstone here is not subjective vision but an addiction to extreme realism, a realism that is intended to show no theoretical or political mediation, a kind of degree zero of the political, without thought about the consequences of the social construction it would lead to in reality."³⁰ Elsewhere the critic identifies this tendency - "a culture of sprawl for a new global middle class" - as 'Fresh Conservatism': "while the freshness of the design generates endless differences on the cultural level, it also generates a new homogenisation on the level of the political."³¹ The third tendency of Naturalisation does not fulfil the (political) promise either, according to van Toorn, for what it "tends to forget is that our social actions and behaviour, not our biological bodies, constitute our identities."³² In opposition to van Toorn's dismissal of the naturalising 'basin of attraction' for its lack of political agency, we will argue that it is precisely here

²⁹ Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 260. See also: Gilles Deleuze, "Schizophrenia and Society" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 28. "Unlike the paranoid whose delirium consists of restoring codes and reinventing territories, the schizophrenic never ceases to go one more step in a movement of self-decoding and self-deterritorialization [...]."

³⁰ Roemer van Toorn, "After Criticality: The Passion for Extreme Reality in Recent Architecture... And its Limitations" in *Crossover*, ed. Arie Graafland and Leslie Kavanaugh (Rotterdam: 010 Publishers, 2006). pp. 174-175.

³¹ Roemer van Toorn, "Fresh Conservatism: Landscapes of Normality" in *Quaderns* 215. (1997). "Fresh Conservatism is a tendency that presents the normally discreet character of conservatism in a spectacularly fresh fashion, as a work of art. This freshness is of course itself an inseparable part of our conservative industry of spectacle."

³² Roemer van Toorn, "After Criticality: The Passion for Extreme Reality in Recent Architecture... And its Limitations" in *Crossover*, ed. Arie Graafland and Leslie Kavanaugh (Rotterdam: 010 Publishers, 2006). p. 181. "I am always surprised when Van Berkel & Bos (UN Studio) show their 'Manimal' metaphor for a new architectural practice – an image hybridizing a lion, a snake, and a human, and only talk about the process of generating the Manimal but never about its cultural, ideological, and symbolic implications. For them it's all about form and not how social practices of use unlock such a metaphor."

that we see a genuine potential for breaking out of the impasse that was predicted by Deleuze and Guattari forty odd years ago. It opens up a possibility beyond both fresh conservatism of *ex-futurism* and conservative freshness of *neo-archaism*. We shall thus propose to expand the naturalising third into a full-blown 'fitness landscape', populated with the third triad of conceptual personae/aesthetic figures. As we have seen, these two concepts seem almost interchangeable in the case of architecture. Although it would be difficult to imagine the respective proponents seated at the same dinner table, we want to suggest that there is a strong tie that binds them nevertheless. This is the Northern Line which "has a multiple orientation and passes *between* points, figures, and contours: it is positively motivated by the smooth space it draws, not by any striation it might perform to ward off anxiety and subordinate the smooth."³³ Its transversal trajectory circumvents both limit conditions - realism and rationalism - established by the small and large form respectively.

+++++		
AUTONOMY	MISE-EN-SCÈNE	NATURALISATION
geometry		infrastructure
passive experience		interaction
form	theatrical situation	instrumental and operational system
Claus & Kaan	MVRDV	NOX
Forensic Institute	Hannover Pavilion	D-Tower
<i>typology</i>	<i>topography</i>	<i>topology</i>
(neo-neorationalism)	(neo-neorealism)	(machinism)
+++++		

xlvi **Van Toorn's Second Triad:** *Autonomy - Mise-en-scène - Naturalisation.*

5.2 Northern Line

099 **Abstraction and Empathy** The smooth and the striated must be defined in themselves, say Deleuze and Guattari, before the *relative* distinctions between the couples haptic-optical and near-distant can be derived. To that end, they introduce a third couple, that of the abstract-concrete line. Although credit for according fundamental importance to the abstract line goes to the German art historian Wilhelm Worringer, that concept was immediately modified or even

³³ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 496-497.

perverted by Deleuze and Guattari.³⁴ For Worringer, the abstract line allegedly made its first appearance in imperial Egypt. Its crystalline or geometrical character was negatively motivated by anxiety. That is to say, it offered (an appearance of) constancy and eternity in the face of all that passes, flows, or varies. It was only later that Worringer gave a more positive determination of the abstract line, not in conjunction with rectilinear articulation, but by way of nomadic modification in the figure of the Gothic or Northern Line. This is the version embraced by Deleuze and Guattari who explain its aesthetic motivation in the following way:

The abstract line is the affect of smooth spaces, not a feeling of anxiety that calls forth striation. Furthermore, although it is true that art begins only with the abstract line, the reason is not, as Worringer says, that the rectilinear is the first means of breaking with the nonaesthetic imitation of nature upon which the prehistoric, savage, and childish supposedly depend, lacking, as he thinks they do, a 'will to art'. On the contrary, if prehistoric art is fully art it is precisely because it manipulates the abstract, though nonrectilinear, line: 'Primitive art begins with the abstract, and even the prefigurative... Art is abstract from the outset, and at its origin could not have been otherwise.'³⁵

Here Deleuze and Guattari follow the lead of the French anthropologist Andre Leroi-Gourhan who considered rhythmic marks to be anterior to explicit figures.³⁶ Worringer's position remains rather ambiguous. On the one hand, he excludes prehistoric art from Art on the ground of its fundamentally figurative character. On the other, he advances the hypothesis that the cave dwellers were the 'ultimate result' of a series that, according to him, began with the abstract. But would not such a hypothesis force Worringer to revise his conception of the abstract, Deleuze and Guattari ask, and stop identifying it with Egyptian geometricism? The geometrical conception of abstraction was just not abstract enough. At any rate, as Vlad Ionescu recently showed, Worringer belongs to a revolutionary generation of art historians, as do Alois Riegl and Heinrich Wölfflin, who no longer based their theories on a mere taxonomy of artworks in

³⁴ Deleuze and Guattari acknowledge that the correlation, 'haptic-close-abstract', was already suggested by Austrian art historian Alois Riegl. But it was Worringer who developed the theme of the abstract line in his doctoral thesis. See: Wilhelm Worringer, *Abstraction and Empathy* (Cleveland: Meridian, [1907] 1967), chapter 5, and especially *Form in Gothic* (London: Putnam's and Sons, [1911] 1927), pp. 38-55.

³⁵ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 496-497. See also: Gilles Deleuze, "Doubts About the Imaginary" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), p. 67.

³⁶ See: Andre Leroi-Gourhan, *Gesture and Speech* (Cambridge, MA: The MIT Press, [1964] 1993).

order to engage with what we see as the production of affect: "An image for Riegl, Wölfflin and Worringer is an entity on its own, not a copy of the world but constitutive of the perception of the world. It is a plastic extension of the way the world is felt at a given moment."³⁷ The mode of seeing and feeling, the type of sense and the type of space and line, subordinate the taxonomy of the actual artworks."³⁸ In both *Abstraction and Empathy* (1908) and *Form in Gothic* (1911), Worringer theorised the Northern Line in contrast to two other lines: the geometrical (mechanistic) and the organic (vitalist) line.³⁹ In the words of Norman Fischer:

Worringer questioned and creatively incorporated into his analysis the results of two types of German aesthetics of his day. The first was the art history of Alois Riegl and others who had explored non-representational, abstract art, often of a largely geometric nature, and largely outside the canon of classical western painting and sculpture. [...] The second line was that of Theodore Lipps, who had suggested that the emotion of empathy [*Einfühlung*] was particularly elicited by the works of the naturalistic classical Western canon of great painting and sculpture. Starting with these two lines of research Worringer asked what the emotional correlate of the abstract, geometrical art was. In asking this question he assumed the answer was not empathy. His answer was essentially 'alienation and denial of the world'. Thus Worringer saw art as either naturalistic and empathic or abstract and life-denying [...] In the extended tripartite (as opposed to dualistic), version of the theory, there is a third possibility: an abstract art

³⁷ The concept of plasticity has recently been revamped by Catherine Malabou: "The subject is not supple and soft, and it is not rigid either; it is something in between. The subject is 'plastic'. Plastic, if you look in the dictionary, means the quality of a matter, which is at the same time fluid but also resisting. Once formed, it cannot go back to its previous state. For example, when the sculptor is working on the marble, the marble, once sculpted, cannot be brought back to its original state. So, plasticity is a very interesting concept because it means, at once, both openness to all kinds of influences, and resistance." See: Noëlle Vahanian, "A Conversation With Catherine Malabou" in *JCRT* (Vol. 9. No. 1, 2008), pp. 1-13.

³⁸ See: Vlad Ionescu, "Deleuze's Tensive Notion of Painting in the Light of Riegl, Wölfflin and Worringer" in *Deleuze Studies* (No. 5.1, 2011), pp. 52-62. Cf. Alois Riegl, *Die Entstehung der Barockkunst in Rom. Vorlesungen aus 1901-1902*, ed. A. Burda and M. Dvorak (Vienna: Kunstverlag Anton Schroll, 1923); Wilhelm Worringer, *Abstraction and Empathy* (New York: International University Press, 1953); Heinrich Wölfflin, *Principles of Art History: The Problem of the Development of Style in Later Art* (New York: Dover, 1932).

³⁹ Historically, the difference between the two lines - mechanical and organic - proved to be of central importance to social sciences as well. Ferdinand Tönnies' opposition between *Gemeinschaft* (community) and *Gesellschaft* (society), or Durkheim's distinction between two types of solidarity, and so on. See: Steven Jacobs, "Shreds of Boring Postcards: Toward a Posturban Aesthetics of the Generic and the Everyday" introduction to *Post Ex Sub Dis: Urban Fragmentations and Constructions*, ed. Ghent Urban Studies Team (Rotterdam: 101 Publishers, 2002), p. 15.

which was neither as geometric as the art studied by Riegl, nor as naturalistic as the art studied by Lipps, but a distorted version of natural life. Such work aroused emotion between anxious denial and empathic affirmation.⁴⁰

100 **Fit Happens** Where we depart both from Ionescu and Fischer, however, is on their covertly representational (and anthropocentric) agenda of trying to account for "the transfer of forces via the senses" or "the emotional correlate of art," respectively. As Guattari puts it, "the fact that the machine is motherless does not speak for a cerebral father, but for a collective full body, the machinic agency on which the machine sets up its connections and produces its ruptures."⁴¹ In other words, it is not sufficient to displace symbolic representation for a processual one, for that would amount to the isomorphic fallacy of the second order. Any theory which frames its problem in terms of 'transfer' - eye/distance vs. touch/immediacy - is bound to perpetuate the representational fallacy despite its rhetoric that claims otherwise. A radical empiricist (Gibsonian) commitment does not allow for such regression. Nothing is transferred, senses are not channels and *there is no sense data* to be deciphered, processed or interpreted. Instead, we need to start from the event, for any rationality is but a *subtraction* from the field of an event much richer than it.⁴² That is why, as Barry Smith elucidates, *fit happens* and we are "bound by the absence of any tie" to begin with. The picture

⁴⁰ Norman Fischer, "Blade Runner and Do Androids Dream of Electric Sheep?: An Ecological Critique of Human-Centered Value Systems" in *Canadian Journal of Political and Social Theory* (Vol.13, No. 3, 1989), pp. 104-105.

⁴¹ See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosophy*, ed. Sylvere Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 96-97. "The machinic painters stressed the following: that they did not paint machines as substitutes for still lifes or nudes; the machine is not a represented object any more than its drawing is a representation. The aim is to introduce an element of a machine, so that it combines with something else on the full body of the canvas, be it with the painting itself, with the result that it is precisely the ensemble of the painting that functions as a desiring-machine. The induced machine is always other than the one that appears to be represented. It will be seen that the machine proceeds by means of an 'uncoupling' of this nature, and ensures the deterritorialization that is characteristic of machines, the inductive, or rather the transductive quality of the machine, which defines recurrence, as opposed to representation-projection: machinic recurrence versus Oedipal projection."

⁴² "[T]he painting exceeds its frame and is realized in polychrome marble sculpture; and sculpture goes beyond itself by being achieved in architecture; and in turn, architecture discovers a frame in the facade, but the frame itself becomes detached from the inside, and establishes relations with the surroundings so as to realize architecture in city planning. From one end of the chain to the other, the painter has become an urban designer. *We witness the prodigious development of a continuity in the arts, in breadth or in extension: an interlocking of frames of which each is exceeded by a matter that moves through it.*" [emphasis added] See: Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 123.

does not aim at representing anything like the retinal image or any pattern of nervous stimulation on the part of the observer. Rather, it delivers a particular distribution of light to a *potential* observer. Smith further explains that, as the enemies of realism are fond of pointing out, it merely implies that there is no 'God's eye perspective' or 'view from nowhere': "This does not, however, mean that we are justified in drawing the conclusion that every single one of the myriad perspectives which we have at our disposal embodies a false view of reality. The inference from partiality to falsehood might indeed be valid, but only in a world without windows - a world in which no single one of our grids enjoys the condition of transparency."⁴³ As Deleuze insisted after Bergson, "Photography, if there is photography, is already snapped, already shot [...]"⁴⁴ According to Constantin Boundas, Deleuze's critique of phenomenology begins at this very point. In contrast to phenomenology, which makes movement relative to 'poses' and gives natural perception a privilege, Bergson's starting point is a world of continuously changing movement-images, a world of matter in constant flux with no anchorage or assignable points of reference: "In the case of phenomenology, natural perception and movement imply the notion of the subject. In the case of Bergson, movement is not subordinate to a subject which performs it or undergoes it. Where light diffuses itself with a minimum resistance or loss, the eye is inside things. The lines of (f)light do not yet appear to anybody, because (f)light has not yet been arrested or refracted. We are dealing here with a 'pre-human' or 'inhuman' world having a privilege over the human-all-too-human world of phenomenology, where consciousness is the search light summoning up things from their native obscurity."⁴⁵ The concept of 'translucency' which Deleuze used to interpret Bergson's philosophy is thus meant to show how the images are not created by the human, but exist in themselves. His series of

⁴³ Barry Smith, "True Grid: Ontological Distinctions in the Geographic Domain" in *Spatial Information Theory, Lecture Notes in Computer Science 2205*, ed. Daniel Montello (Berlin/New York: Springer, 2001), pp. 14-27. "This corresponds to the theory of picture perception sketched by the great theorist of realism J. J. Gibson and encapsulated by his student Kennedy (1974) in the form of a definition of a picture as: 'a surface treated so that it yields light to a particular station point, usually on a normal to the picture surface, which could have come from a scene in the real world.' Gibson naturally recognizes that there are other sorts of pictures (including maps), some of which involve conventional elements (symbols, icons), which have nothing to do with the conveyance of light to the eye in a way which simulates the light that is projected from surfaces in three-dimensional space."

⁴⁴ See: Gilles Deleuze, *Cinema 1; The Movement-Image* (London: The Athlone Press, [1983] 1986), pp. 60, 61. "We may therefore say that the plane of immanence or the plane of matter is: a set of movement-images; a collection of lines or figures of light; a series of blocs of space-time."

⁴⁵ Constantin V. Boundas, "Deleuze-Bergson: an Ontology of the Virtual" in *Deleuze: a Critical Reader*, ed. Paul Patton (Oxford: Blackwell Publ., 1996), p. 84.

'blocks of space-time' - with or without us - are easily mapped on Gibson's ambient (optic) array. This is precisely why Deleuze and Guattari appropriated Worringer's term *expressionism* despite the fact that a less fashionable concept for late twentieth-century European thought, according to Massumi, would be hard to find:

Deleuze and Guattari agree that the subject is in a sense spoken by extra-linguistic forces of expression, and that this impersonal speaking is not a matter of choice. But they do not see anything 'hidden' to uncover, nor are they willing to reduce the expressing individual to an instantiation of a system. From their perspective, the force of expression and the linguistically formed exercises of power it often fuels are painfully evident. The force of expression, however, strikes the body first, directly and unmediatedly. It passes transformatively through the flesh before being instantiated in subject-positions subsumed by a system of power. Its immediate effect is a differing. It must be made a reproduction. The body, fresh in the throes of expression, incarnates not an already-formed system but a change. Expression is an event. The ideological question of how to think open a space for change in a gridlocked positional system is turned on its head. The task for a theory of expression is how to account for stability of form, given event. The key is to remember that 'emergence, mutation, change affect composing forces, not composed forms.'⁴⁶

Consider the following parallel with connectionism - modelling cognitive phenomena as the emergent processes of interconnected networks of simple units - from the point of view of dynamic systems. Traditional theories of cognition (in)famously explain the stability of cognition in terms of representation: the reason we all have the same understanding of the word (image) of the *cat* is because we all presumably possess a representation of what it means to be a cat. Under these theories, cognition consists of accessing and mentally manipulating such representations. By contrast, for a connectionist, knowledge consists of the correspondence between an emergent global state of a network, and properties of the world, according to the dynamic systems theorists Thelen and Smith. To put it simply, we have knowledge of the meaning of the *cat* when a stable pattern of network activity emerges in the context of a cat. The problem with both traditional and connectionist approaches to cognition is their focus on stability or the end-state. It is for this reason that Thelen and Smith find that both fall short of the problem of *change* in the face of 'stability':

⁴⁶ Brian Massumi, "Like a Thought" introduction in *A Shock to Thought: Expressionism After Deleuze and Guattari* (London: Routledge, 2002), pp. xiii-xxxix.

The central theoretical problem is not stability but change. [...] Where does new knowledge, new understanding, new behavior come from?⁴⁷

The question therefore is not whether we can get symbol-like behaviour without symbols or rule-like behaviour without rules. Or, in the case of Ionescu's interpretation, whether we can "appeal to an aesthetics of the specific [sic] senses involved and the type of space they presuppose." The problem is not the one of, in computer jargon, 'parsing' or the distribution of the (al)ready-made senses.⁴⁸ Eye/distance vs. touch/immediacy. Rather, it is a matter of resonance to information, or what we have earlier referred to (after Rancière) as the 'distribution of the sensible' or the creation of affects/affordances, a certain way of allowing matter to stand alone.⁴⁹ Neither subjective (empathy) nor objective (geometrical abstraction). To give the haptic its due, we need to replace the old *extensive* notion with a new intensive concept.⁵⁰ As Claire Colebrook recently argued, the haptic is not to be confused with the tactile, a touch taken by the commanded hand for the sake of the viewing eye. To awaken from our literalist slumber we ought to start from the middle (*milieu*). Everything begins from the Body without Organs (BwO) and nothing is distributed or organised around the

⁴⁷ See: Esther Thelen and Linda B. Smith, *A Dynamic Systems Approach to the Development of Cognition and Action* (Cambridge, MA: MIT Press, 1994), pp. 42-43.

⁴⁸ Parsing means analysing computer input in a specific language against the formal grammar of that language, both to validate the input and to create an internal representation of it for use in subsequent processing.

⁴⁹ See: Jacques Rancière, *The Politics of Aesthetics: the Distribution of the Sensible* (London: Continuum, 2006), pp 12-13. "I call the distribution of the sensible the system of self-evident facts of sense perception that simultaneously discloses the existence of something in common and the delimitations that define the respective parts and positions within it. A distribution of the sensible therefore establishes at one and the same time something common that is shared and exclusive parts. This apportionment of parts and positions is based on a distribution of spaces, times, and forms of activity that determines the very manner in which something common lends itself to participation and in what way various individuals have a part in this distribution. Aristotle states that a citizen is someone who has a part in the act of governing and being governed. However, another form of distribution precedes this act of partaking in government: the distribution that determines those who have a part in the community of citizens [...] *There is thus an 'aesthetics' at the core of politics that has nothing to do with Benjamin's discussion of the 'aesthetization of politics' specific to the 'age of the masses'* [...] It is a delimitation of spaces and times, of the visible and the invisible, speech and noise, that simultaneously determines the places and the stakes of politics as a form of experience. Politics revolves around what is seen and what can be said about it, around who has the ability to see and the talent to speak, around the properties of spaces and the possibilities of time." [emphasis added]

⁵⁰ "Latitude is made up of intensive parts falling under a capacity, and longitude of extensive parts falling under a relation." See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 257.

mind, or oriented toward cognition: "in the beginning is not a body or essence that comes into existence, for in the beginning is the event, act, difference or distance from which a body brings itself into being."⁵¹

We have already shown how the (intensive) topological space engenders extensive metric space through a symmetry breaking cascade. The take on the smooth-space-becoming-striated will now shift from quasi-mathematical to *aesthetic* by reference to the Northern Line. Paradoxical as it may seem, it designates a *nonpersonal mode of individuation*. Let us qualify. The process is neither mathematical nor scientific, nor is it dependent on the logic which proceeds by the construction of truths valid by virtue of their form. Empirical natural science proceeds by propositions that are valid by virtue of their experiential verification. By contrast, ethics, politics and aesthetics are not in these language games. They are something completely different in normative terms. The propositions they proceed by are based on mere experimentation and can be accepted or rejected. Any other way would lead to coercion and an imposed way of thinking. Paul Patton explains the tenets of this 'paradoxical normativity': "Deleuze and Guattari's concepts are normative, not merely in the sense that any concept is normative by virtue of the manner in which it enables some inferences and disables others, but in the sense that they are the elements of a form of practical rather than theoretical reason. They provide a framework within which to evaluate the character of particular events and processes. They enable us to pose questions such as: is this negative or positive reterritorialization? Is this a genuine line of flight? Will it lead to a revolutionary new assemblage in which there is an increase of freedom or will it lead to a new form of capture or worse?"⁵² As for the 'quasi' in the term quasi-mathematical, it is meant to emphasise the fact that Deleuze finds it legitimate to draw upon any sources whatsoever to create *philosophical* (and not strictly mathematical) concepts.⁵³

⁵¹ Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), pp. 34, 39. "In its naïve and celebratory form we will say that the haptic is the affirmation of a sensibility, affect, encounter or sensibility *not yet* subjected to the reified systems of the intellect. Before there is a subject who feels there is this influx or explosion of sensation. Before it is thought, conceptualised, lived as this or that distinct and differentiated being, there is the absolute immanence of the lived. Before a world mastered and distributed in extension for an 'I' who thinks, or a world to be received, there is intensity and influx, only subsequently, belatedly and after the fact taken as the world of *res extensa*."

⁵² Paul Patton, *Deleuzian Concepts: Philosophy, Colonization, Politics* (Stanford, CA: Stanford UP, 2010), pp. 144-145.

⁵³ Deleuze is aware of the dangers of invoking scientific propositions outside of their own domain: "But perhaps these dangers are averted if we restrict ourselves to extracting from scientific operators a particular conceptualizable character which itself refers to non-scientific areas, and converges with science without applying it or making it a metaphor."

The case of the Northern Line is one such fruitful convergence between philosophy and art that architects should be particularly attuned to: "The plane of composition of art and the plane of immanence of philosophy can slip into each other to the degree that parts of one may be occupied by entities of the other. In fact, in each case the plane and that which occupies it are like two relatively distinct and heterogeneous parts. A thinker may therefore decisively modify what thinking means, draw up a new image of thought, and institute a new plane of immanence. But, instead of creating new concepts that occupy it, they populate it with other instances, with other poetic, novelistic, or even pictorial or musical entities."⁵⁴

- 101 **Haptic** Deleuze and Guattari go beyond Worringer's two aesthetic modes from his *Abstraction and Empathy* (1908), where the former refers to the pure abstraction of flat geometric forms (Egypt) and the latter to the naturalistic and representative empathy. They counter-effectuate both these modes to arrive at their very condition which lies in a more radical potentiality of the line that cannot be thought of either as the articulation of space (abstraction), or as the drawing out of a non-spatial inner life of another organism (empathy). This is by no means a third way, as in Fischer. It is a *spatium* (smooth space), or the movement from which all bodies or matters unfold. The conclusion to be drawn from such a seemingly opaque ontology is that *there is no sense in general*. According to Colebrook, the haptic is to be approached as the violation of thought's mastery of itself:

There is no lifeworld or horizon which is, though not present to any single subject, nevertheless constituted in and through some intersubjective community. Marking this distinction requires thinking of the line *neither* as the act of a subject who differentiates his world [*umwelt*] (so not as the linguistic construction of reality) *nor* a line which would be the pure and abstract force of a subject who had kicked himself free from all notions of the vital; not, therefore, a *pure* avant-garde return of the line to absolute liberty [autonomy thesis]. Instead the line would be at once vital (bearing its own tendencies, producing its own connections, unfolding its own worlds) and destructive of the lived. We could not return the line to some preceding intent of which it would be the actualisation. The line would be haptic, sensible, corporeal and vital only in its break from the [constituted] body proper.⁵⁵

See: Gilles Deleuze, *Cinema 2; The Time-Image* (London: The Athlone Press, [1985] 1989), p. 129.

⁵⁴ See: Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, [1991] 1994), pp. 65-66.

⁵⁵ Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), p. 41. "[William] Blake is writing, precisely because it is a tradition concerned with

This is the gist of the reciprocal determination of the virtual and actual, where the material cause is tied to the incorporeal effect which, in turn, operates as a quasi-cause. The Northern Line is Deleuze and Guattari's name for this very (nonorganic) tie which is neither essentialist nor critical, that is, neither concerned with the appearance of the essence, nor with the conditions of (possible) apparition, but with the genesis of the definite, namely, expression.

5.2.1 The Third Triad: MM

102 **(Non)Scopic Regimes** Martin Jay's second scopic regime, *The Art of Describing*, borrowed the title from Svetlana Alpers' definition of Dutch seventeenth century painting (1983).⁵⁶ It describes the form of vision associated with the Dutch painting and its attention to tactility through the representation of textures, as well as its understanding of the pictorial scene devoid of the classical frame (perspective) and religious context (narrative). According to Alpers, the hegemonic role of the Italian painting in art history has occluded the appreciation of a second non-discursive tradition which flourished in the seventeenth century Low Countries. She compared the Dutch school of painting and the Italian Renaissance in the following terms:

[A]ttention to many small things versus a few large ones; light reflected off objects versus objects modelled by light and shadow; the surface of objects, their colours and textures, dealt with rather than their placement in a legible space; an unframed image versus one that is clearly framed; one with no clearly situated viewer compared to one with such a viewer. The distinction follows a hierarchical model of distinguishing between phenomena commonly referred to as primary and secondary: objects and space versus the surfaces, form versus the textures of the world.⁵⁷

the *incarnation*, sets itself the task of presenting matter as spirit, of allowing matter itself to vibrate. Thus Blake's work is at one and the same time Christian, for 'everything that lives is holy' and therefore always expressive of some spirit beyond the body; at the same time it is the deconstruction of Christianity, for the holy life in *everything that lives* can never be grounded in a single act of genesis or creation. The truly holy, truly spiritual and truly living could never be limited to the borders of a body."

⁵⁶ The three scopic regimes are: (1) Cartesian Perspectivism, (2) The Art of Describing and (3) Baroque. See: Martin Jay, "Scopic Regimes of Modernity" in, *Vision and Visuality*, ed Hal Foster (Seattle: Bay Press, 1988), pp. 3-27.

⁵⁷ See: Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century*, (Chicago: University of Chicago Press, 1983).

One could perhaps describe Dutch art as hyper-real compared to its Mediterranean counterpart. Jay goes on to qualify what he means by realism. Drawing on the Lukácsian distinction between realism and naturalism, he takes realism to be concerned with typological essential depths, and not with surfaces. We referred to this strategy earlier as, in the words of Graham Harman, undermining (of the object).⁵⁸ On the other hand, narration produces a sense of meaningfulness which goes beyond the supposedly scattered and untotalisable facts of an object. This is a strategy of overmining. With its stress on the three-dimensional space rather than the two-dimensional surface of the canvas, the Cartesian perspectivism is, in this sense, realist. Naturalism, on the other hand, is interested solely in the surface, namely, in describing its variety of forms without reducing them to any symbolically meaningful visual depth. Nevertheless, Jay believes that these modes of realism and naturalism might well be seen as complementary. According to him they both create reality-effect, the (Cartesian) one by our belief that reality is depth, the (Barkleyan) other by simply showing surfaces. Curiously enough, this conclusion brings us full circle with empathy (depth) and abstraction (surface) as alternatives. The philosopher Vilém Flusser has tried to resolve the issue - equally pressing for the new media - by introducing the concept of 'superface': while surfaces are surfaces of something, the new surfaces are 'surfaces of concepts'.⁵⁹ But as we have argued, Deleuze and Guattari's concept of the Northern Line is more radical in its circumvention of the (covertly) representational issues: "The abstract line is the affect of smooth space, just as organic representation was the feeling presiding over striated space. The haptic-optical, near-distant distinctions must be subordinated to the distinction between the abstract line and the organic line; they must find their principle in a general confrontation of spaces."⁶⁰ In *Spinoza and the Three*

⁵⁸ See: Graham Harman, "On the Undermining of Objects: Grant, Bruno and Radical Philosophy" in Levi Bryant, Nick Srnicek and Graham Harman, *The Speculative Turn: Continental Materialism and Realism* (Melbourne: re.press, 2011), pp. 21-40.

⁵⁹ Michael T. Schetsche and Thomas Temme, "Some Brief Remarks on a Theory of Superface" in *Flusser Studies* (No. 2, May 2006). "In a very abstract manner, one could say: The superface developed from the second transformation of the perception of surface. The first transformation was the development of the difference between surface and meaning and the birth of the idea of a beyond – both in the spatial and the religious sense of a kingdom-come. The second transformation of the perception of surface is closely linked to the dissemination of screen media. In the course of this transformation, it became increasingly apparent that certain optical impressions withdraw from this duality, that there are surfaces which refer to no meaning outside of themselves. Precisely these are surfaces which we call superface." <http://www.flusserstudies.net/pag/archive02.htm> (accessed May 25, 2011).

⁶⁰ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 499.

'Ethics', Deleuze credits the Dutch painter Vermeer with discontinuing the tradition of *chiaroscuro*. In contrast to Rembrandt for whom the light is secondary, Vermeer takes light to be the antecedent (smooth space) that engenders shadows in an interplay (relation) with bodies. The undertaking marks a symmetry-breaking cascade where "it [shadow] subsists as an effect that can be isolated from its cause [...]." Clearly, if the effect can be isolated from the cause we can happily declare to be rid of what Mark Cousins calls "the two unwelcome visitors" (in art), namely, representation and 'reality'.⁶¹ *Render visible*, the Swiss painter Paul Klee pleaded; not render or reproduce the visible (reality). The Deleuzian formula is well known by now: *Something finite* (actual/effect) *consists of an infinity* (virtual) *under a certain relation* (intensive).

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SIGN	CONCEPT	ESSENCE
shadow	colour	light
marrow	brain	tongue
Jesus	God	Holy Spirit
affect	notion	percept/singularities
	<i>relative speed</i>	<i>absolute speed</i>
UNKNOWN	SOLUTION	PROBLEM
+++++		

xlix

Any-Space-Whatever: *Essences are figures of light and no longer geometric figures revealed by light. [...] The [Spinoza's] Ethics sets forth three elements, which are not only contents but forms of expression: Signs or affects; Notions or concepts; Essences or percepts. They correspond to the three kinds of knowledge, which are also modes of existence and expression.*⁶² (G. Deleuze, 1993)

The three 'ethics' are: "A logic of the sign, a logic of the concept, a logic of essence: Shadow, Color, Light." [Table xlix] Or what Deleuze would anecdotally refer to much later – in reference to his favourite meal - as *the triad* (of marrow, brain and tongue): "these things constitute a kind of trinity since one might say

⁶¹ Cousins objects to the conflation of representation with mimesis. While the former represents (like a copy) the latter is, in his words, "about the movement of desire/identification" (not a copy but "imitation as identification"). This definition is conspicuously close to the concept of affect - "experience without (conceptual) knowledge" - although Cousins illustrates it in terms of Wolfflin's corporeal sensation of empathy. On this basis, one undergoes experience which cannot be put into propositional form. Consequently, 'conceptual art' is an oxymoron. See: Marc Cousins, "Mimesis and Representation" *AA lecture* (March 18, 2011), <http://www.aaschool.ac.uk/VIDEO/lecture.php?ID=1353> (accessed May 25, 2011).

⁶² Gilles Deleuze, "Spinoza and the Three 'Ethics'" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), pp. 138-151.

[...] that brains are God the father, marrow, the son since it's like vertebrates that are little crabs. So God is the brain, the vertebrates the son, Jesus, and tongue is the Holy Spirit, which is the force of the tongue. Or, [and Deleuze hesitates a bit here], it's the brain that is the concept, marrow is affect, and tongue, the percept. [Deleuze tells Claire Parnet not to ask him why, it's just that he sees these trinities as very ... he does not complete the sentence]..."⁶³ Each of the three 'ethics' coexists with the others and is taken up in the others, despite their differences in kind. "It is one and the same world."⁶⁴ The world is what Spinoza defines as one substance having different attributes, having all things as modes of this single substance. However, one does not situate qualities or attributes as secondary to being or substance, explains Guattari: "nor does one commence with being as a pure empty container (and *a priori*) of all the possible modalities of existing. Being is first auto-consistency, auto-affirmation, existence for-itself deploying particular relations of alterity."⁶⁵ The formal logic of actual predicates (typology) is thus replaced by a transcendental logic of virtual singularities (topology). In the words of Deleuze:

A world already envelops an infinite system of singularities selected through convergence. Within this world, however, individuals are constituted which select and envelop a finite number of the singularities of the system [...] An individual is therefore always in a world as a circle of convergence, and a world may be formed and thought only in the vicinity of the individuals which occupy or fill it.⁶⁶

103 **Enabling Constraints** There is no sense in general. Multiplicities, however, do not come ready-made. They have to be made. The production of the multiple entails two tasks: "obtain pure singularities, and establish relations or syntheses between them so as to produce a variable Whole that would be the "effect of the

⁶³ See: "M as in Malady/Illness" in *Gilles Deleuze's ABC Primer, with Claire Parnet* (Directed by Pierre-André Boutang, 1996). Overview prepared by Charles J. Stivale, Romance Languages & Literatures, Wayne State University, <http://www.langlab.wayne.edu/Cstivale/D-G/ABC1.html> (accessed May 25, 2011).

⁶⁴ Gilles Deleuze, "Spinoza and the Three 'Ethics'" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. 151. "[I]n all these respects Spinoza remains infinitely closer to Vermeer than to Rembrandt."

⁶⁵ See: Félix Guattari, *Chaosmosis: an Ethico-aesthetic Paradigm* (Bloomington: Indiana UP, 1995), p.109.

⁶⁶ The concept resonates with that of Leibnizian 'monad' which is said to be born during pre-actualization, that is, from the centres of convergence which occur in the virtual series. See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), pp. 109-110.

multiplicity and its disconnected parts."⁶⁷ This *variable* Whole is neither a totality derived from the Parts, nor an 'original' totality from which the Parts emanate.⁶⁸ In other words, it is neither organic nor mechanic but machinic and therefore immanent. But could there be immanent architecture? Perhaps the honest answer is: not yet. Nevertheless, the Dutch milieu seems to contain all the necessary ingredients. Having laid the pre-philosophical plane of immanence with Spinoza, and created the concept with Vermeer (Northern Line), we turn to the invention of the conceptual personae/aesthetic figures.⁶⁹ Let us focus on the third triad of proto-immanent architecture. [Table I] In anticipation of our conclusion we can point out that, the more these practices will allow for a play with virtualities without actualising them, the less will they require the prefix 'proto'. The creation of affordances that we posit as the main task of architecture is inseparable from what Manning and Massumi call 'enabling constraints'.⁷⁰ Given that the field of experience is full of tendencies vying to come to expression, and the relationality of their vying codetermines the outcome, it is a theory of codetermination (reciprocal determination). The concept of enabling constraints helps us escape linear causality and move toward determination as an aesthesis, as a process of experience. The key is to preserve the tendential tenor of the field in its complexity.

⁶⁷ See: Daniel W. Smith "A Life of Pure Immanence: Deleuze's 'Critique et Clinique' Project" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), p. xxiii.

⁶⁸ If the orthodox response to Gödel's incompleteness theorems was to affirm consistency at the expense of completeness, Johnston proposes to affirm completeness at the price of consistency. For his account of an 'inconsistent totality' see: Adrian Johnston, "Materialism, Subjectivity and the Outcome of French Philosophy: Interview by Michael Burns and Brian Smith" in *Cosmos and History: The Journal of Natural and Social Philosophy* (Vol. 7, No. 1, 2011), pp. 179-180.

⁶⁹ See: Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), p. 76. "The conceptual persona is needed to create concepts on the plane, just as the plane needs to be laid out. But these two operations do not merge in the persona, which itself appears as a distinct operator."

⁷⁰ Erin Manning and Brian Massumi, "Coming Alive in a World of Texture: For Neurodiversity" keynote talk-performance at *Dance, Politics & Co-Immunity Thinking - Resisting - Reading the Political* (Giessen, November 12, 2010), <http://www.dance-tech.net/video/brian-massumi-erin-manning> (accessed May 25, 2011). "A thorough-going philosophy of emergence must include space itself among the formations that emerge. This means foregoing any notions of a priori spatial schema of experience, or giving any kind of priority to formal expressions of such schema, such as systems of measure or positional coordinate grids of the kind deployed in the quantitative sciences. Position must be seen as the product of a process of experiential genesis. On the level of that genesis, it has yet to separate out in a determinate fashion from other emergent dimensions of experience. The emergence of space must be grasped at this level in directly *qualitative* terms - which is to say in directly experiential terms - and as part of a texture of incipient forms of life."

CONNECTIVE	DISJUNCTIVE	CONJUNCTIVE
UN Studio Manimal	NOX D-Tower	OMA/AMO Naked boxer eating oysters
<i>paranoic machine</i>	<i>miraculating machine</i>	<i>celibate machine</i> retroactive
and... and... and	either... or... or	"so that's what it was"
present (Hume) SPACE	pure past (Bergson) TIME	future (Nietzsche) PSYCHE

1 **Third Triad - Architecture of Immanence:** *A micro politics of desire would refute the imperialism of signifying semiologies that cut desire off from the real. In refusing to consider the principles of signification and interpretation as immanent, this micro politics would refuse to accept the organization of dominant realities as an act of fate. It is not a question, for example, of magically denying signification by rendering language absurd and falling back into the techniques of word play [...], but of placing different semiotic systems in conjunction with each other, beginning with asignifying semiotics, that is to say those semiotic practices which use signs in order to transform the real and which constitute, precisely, the privileged site for the investment of desire in the social arena.* ⁷¹ (F. Guattari, 1995)

104 **Schizo-Analysis** The rhizomatic non-hierarchical condition of multiplicity means that singularities can be (inter)connected in any number of ways. Deleuze distinguishes between three types of syntheses among singularities in general. These syntheses are *passive* as they do not presuppose an active agency on the part of the subject.⁷² *Style is never a matter of the man.*⁷³ As Daniel W. Smith explains, for Deleuze conscious will and preconscious interest are both subsequent to our unconscious drives and it is at the level of the drives that we

⁷¹ See: Félix Guattari, "Everybody Wants to be a Fascist" in *Chaosophy*, ed. Sylvère Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 173-174. "[D]esire is inseparable from the existence of semiotic chains of all kinds, and at the same time, it has nothing to do with the redundancies of significant semiologies, with dominant mental representations and repressive interpretations-except when it invests them as such in a fascist-Oedipal micropolitics."

⁷² Deleuze treats the subject as Sartre did in his essay *The Transcendence of the Ego* (1936-1937), that is, as the precipitate of a network of fundamentally passive syntheses rather than as the instigator of active syntheses governed from the first by a principle of 'common sense' (Kant).

⁷³ Gilles Deleuze, *Proust and Signs: the Complete Text* (London: Athlone, [1972] 2007), p. 108.

have to pitch our schizo-analysis: "Kant liked to say that we can never get beyond our representations of the world; Nietzsche surmises that what we can never get beyond is in fact the reality of the drives."⁷⁴ In *Anti-Oedipus* (1972), drives are presented as the desiring-machines themselves.⁷⁵ Desire is thus productive not merely of representations but of the real itself.⁷⁶ It is a positive, productive, and inherently revolutionary mechanism. Most importantly, desires do not exist in a free and unbound state. They cannot be merely individual as they are always arranged and assembled by the current social formation (socius). They are thus social through and through. In this way we cut right through the unattainable sterile parallelism of the 'projective' and micro reductionist Freudism and 'introjective' and macro-reductionist Marxism. Smith considers the above untethering to be the extraordinary legacy of the first volume of *Capitalism and Schizophrenia*: "your very drives and impulses, even the unconscious ones, which seems to be what is most individual about you, are themselves economic, they are already part of what Marx called the infrastructure."⁷⁷

We will now attempt to construct a typology of architectural formation: UNS, NOX and OMA, each of which organises and assembles the drives and impulses in different ways. This is a conscious substitution of a viewpoint of internal genesis for the (Kantian) viewpoint of external condition. According to Deleuze, "intentionality is still generated in a Euclidean space that prevents it from understanding itself, and must be surpassed by another, 'topological', space which establishes contact between the Outside and the Inside, the most distant, the most deep."⁷⁸ The schizoanalytic unconscious - against the Freudian reading -

⁷⁴ See: Daniel W. Smith, "Deleuze and the Question of Desire: Toward an Immanent Theory of Ethics" in *Parrhesia* (No. 2, 2007), pp. 69, 71.

⁷⁵ Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 35. See also: Gilles Deleuze, "Four Propositions on Psychoanalysis" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), pp. 81-82. "[T]here is no subject of desire, and no object either. The objectivity of desire itself is only its flows. There is never enough desire. Desire is the system of a-signifying signs out of which unconscious flows are produced in a social-historical field. [...] producing the unconscious = the expression of desires = the formation of utterances = substance or material of intensities."

⁷⁶ Desire is no longer a faculty belonging to a unified and unifying subject but a function of a differential manifold. Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 26.

⁷⁷ See: Daniel W. Smith, "Deleuze and the Question of Desire: Toward an Immanent Theory of Ethics" in *Parrhesia* (No. 2, 2007), p. 71.

⁷⁸ Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), pp 109-110. See also: Brian Massumi, "Sensing the Virtual, Building the Insensible" in *Architectural Design: Hypersurface Architecture*, ed. Stephen Perella (Vol. 68, No. 5/6, May-June 1998), pp. 16-24. "[Experiential substrate] consigns everything to function, hypostasized as the ontological ground of lived experience. "Intentionality" is another word for function,

is not metaphysical but transcendental, not ideological but materialist, not symbolic but real, and not imaginary but abstract.

According to Kipnis, contemporary architecture has evolved three distinct modes of negation (critique): formal invention, symbolic appropriation, and infrastructural subterfuge, each with its own material discourse. Formal invention, working in the name of the future against the past ever since the Russian avant-garde, remains the most explicit and venerated strategy of negation. Its present-day proponent Peter Eisenman goes so far as to argue that resistance, negation, and formal invention are in fact synonymous in architecture. By contrast, it was Aldo Rossi and Robert Venturi who each in their own way first articulated symbolic appropriation as an incisive stand against both a romanticised past and an invented future. Earlier we referred to their respective projects as neorationalist and neorealist, identifying them as predecessors of neo-neorationalism and neo-neorealism (paranoia and schizophrenia). Finally, Kipnis takes the third mode to be the most influential innovation in contemporary architecture's discourse of negation. He finds it in Koolhaas' infrastructural subterfuge: "Arguing that formal devices, whatever their ilk, are all too easily commodified, he [Koolhaas] shifts attention to the infrastructure through which entrenched power retains contemporary architecture in its service. According to his argument, a more effective line of resistance is available by a subterfuge which selects elements of that infrastructure, institutional program, code, policy, media, and even physical mechanisms such as elevators, to be turned into the service of an architectural resistance conceived as disestablishment."⁷⁹ But in what sense can this strategy fall into the category of resistance? It seems to us that what draws the third triad (UNS, NOX and OMA) together in general, and distinguishes Koolhaas in particular, is precisely their resistance to operate under the heading of resistance (negation).⁸⁰ According to Deleuze, the sublation of

glorified as the ground of all experience. This transcendentalization of function encloses process in organic form."

⁷⁹ Jeffrey Kipnis, "Is Resistance Futile?" in *Log 5*, ed. Robert Somol and Sarah Whiting (New York: Any Corporation Press, 2005), p. 105. See also: Rem Koolhaas, "Junkspace" in *Content*, ed. AMO-OMA/Rem Koolhaas et al. (Köln: Taschen, 2004), p. 162. "[T]he encounter between escalator and air conditioning, conceived in an incubator of sheetrock (all three missing from the history books)."

⁸⁰ See: Félix Guattari, "Balance-Sheet for 'Desiring-Machines'" in *Chaosology*, ed. Sylvère Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 114-115. "The epoch of the First World War was the meeting ground of the four great attitudes centering around the machine: the great molar exaltation of Italian Futurism, which counts on the machine to develop the national productive forces and to produce a new national man, without calling in question the relations of production; that of Russian [...] Constructivism, which conceives the machine in terms of new relations of production defined by collective appropriation [...]; the Dadaist molecular machinery, which, for its part, brings about a

difference by contradiction amounts to an erasure of non-dialectical differential relationships. The Northern Line indicates this attunement to the differential difference, in stark opposition to the dialectical difference which always operates in terms of opposition, negation and, *ipso facto*, resistance. But what if resistance is correlative to molar notion of power (*pouvoir*) and misses the (molecular) level of 'desiring assemblages'? [Table li] This is not a minor issue. It might arguably be the very reason behind Deleuze's falling out with Foucault. Working from the 'desiring assemblages' is a deliberate reversal of the Foucauldian Episteme-Power-Resistance sequence.⁸¹ In his book on Foucault Deleuze requires that, in order to think, we ought to move beyond formations of knowledge and dispersed visibilities to the 'non-place' from which 'what we see' and 'what we say' emerge. As Colebrook suggests, "We can, and should, move beyond constituted space and systems to the thought of spatiality as such; this will not only yield duration - or the times through which various spaces are realized - but will also intensify space."⁸² Such a *positive* determination, in turn, treats the phenomena of repression and ideology as mere epiphenomena. Deleuze confesses:

Lines of flight and movements of deterritorialisation, as collective historical determinations, do not seem to me to have any equivalent in Michel's [Foucault]

reversal in the form of a revolution of desire, because it submits the relations of production to the trial of the parts of the desiring-machine, and elicits from the latter joyous movements of deterritorialization that overcome all the territorialities of nation and party; and lastly, a humanist antimachinism, which wants to rescue imaginary or symbolic desire, to turn it back against the machine, standing ready to level it onto an Oedipal apparatus [...]."

⁸¹ A boiled-down version is 'where there is power, there is always resistance'. Deleuze and Foucault differ in the following sense: From Deleuze's point of view, Foucault started his philosophical trajectory with discourse and knowledge, and movement from one epistemic formation to another. In order to account for this movement, Foucault had to turn the question of power given that knowledge translates power relations. However, since power is ubiquitous Foucault had to address another problem: how to resist power, how to prevent power from folding in on itself (a major issue of resistance for Foucault). By contrast, Deleuze does not encounter that problem. Philosophically, he begins at the opposite end to Foucault's. He proceeds from flows which are always moving, changing directions. Consequently, Deleuze's problem is not resistance because it is essentially 'built in' in his ontology from the start. Rather, the problem is how to stop the flows, how to integrate them, codify them and stratify them? The flow of desire can never be fully controlled because it is constantly moving outside of itself. A strong ego will stop the flow of desire (own territory). Therefore, Deleuze does not believe in the creativity of an individual ego. See: Daniel W. Smith, "The Subject of Politics" at *Collegium Phaenomenologicum* (2009), <http://deleuzeguattari.wordpress.com/2009/09/01/daniel-smiths-lectures/> (accessed May 25, 2011).

⁸² See: Claire Colebrook, "The Sense of Space: On the Specificity of Affect in Deleuze and Guattari" in *Postmodern Culture* (No. 15.1, 2004).

work. There is no problem for me in the status of phenomena of resistance: since *the lines of flight are the primary determinations*, since desire makes the social field function, it is rather the systems of power which, at the same time, find themselves produced by these assemblages, and crush or plug them. [...] But lines of flight, which is to say assemblages of desire, are not created by marginal elements for me. It is on the contrary on the objective lines which traverse a society that marginal elements install themselves here and there, to complete a circle, a tournament, a recoding. *I thus have no need of a status of phenomena of resistance: if the first given of a society is that everything flees, everything deterritorialises.*⁸³ [emphases added]

Again, this is hardly a matter of a mere change of perspective, as if there were a simple reciprocity between the molecular and molar. Deleuze boldly steps out of the tradition to build an ontology of becoming, of flows that always have resistance already built into them, as it were. For him, "desire does not comprise any lack; neither is it a natural given; it is but one with an assemblage of heterogenous elements which function; it is process, in contrast with structure or genesis; it is affect, as opposed to feeling; it is 'haecceity' (individuality of a day, a season, a life), as opposed to subjectivity; it is event, as opposed to thing or person. And above all it implies the constitution of a field of immanence or a 'body without organs' [BwO], which is only defined by zones of intensity, thresholds, gradients, flux." The BwO is as biological as it is collective or political. It has no organs because it is opposed not only to all the strata of organisation but also to the organisation of power. However, it is on this body that not-yet-stratified assemblages make and unmake themselves. It is here that we do not get disciplined by architecture. On the contrary, the fundamental political question which arises is how come we actually desire confinement as if it were our salvation? This is an issue of immanent ethics. It is also the question of becoming voluntary prisoners of architecture.⁸⁴ According to Daniel Smith,

⁸³ See: Deleuze, "Desire and Pleasure" in *Foucault and His Interlocutors*, ed. Arnold I. Davidson (Chicago, [1994] 1997), pp. 183–192. See also: Gilles Deleuze, "Foucault and Prison" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), p. 280. "For me, a society is something that is constantly escaping in every direction. [...] It is really made up of lines of flight. So much so that the problem for a society is how to stop it from flowing. For me, the powers come later. What surprised Foucault was that faced with all of these powers, all of their deviousness and hypocrisy, we can still resist. My surprise is the opposite. It is flowing everywhere and governments are able to block it. *We approached the problem from opposite directions. [...] society is fluid, or even worse, a gas. For Foucault, it is an architecture.*" [emphasis added]

⁸⁴ See: Rem Koolhaas, Madelon Vreisendorp, Elia Zenghelis, and Zoe Zenghelis "Exodus or the Voluntary Prisoners of Architecture" *AA thesis* (1972). See also: Felicity D. Scott, "Involuntary Prisoners of Architecture" in *October* (No. 106, Fall 2003), pp. 75-101. Cf. Rem Koolhaas, "Sixteen Years of OMA" in *OMA-Rem Koolhaas: Architecture 1970-1990*,

this is ultimately the question of how to give an account of *modes of existence* given their capacities: "Deleuze approaches modes of existence, ethically speaking, not in terms of their will, or their conscious decision making power (as in Kant), nor in terms of their interests (as in Marx, for example), but rather in terms of their drives."⁸⁵

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PUISSANCE	POUVOIR
liberating/joyful	sad affect
Deleuze/(positive)desire	Foucault/pleasure
voluntary/imprisonment	coercive/panopticon
m	M
passive synthesis	active synthesis
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li

Power: *[O]ur present state is always a slice of our duration, and as such determines an increase or decrease, an expansion or restriction of our existence in duration in relation to the preceding state, however close it may be. It is not that we compare the two states in a reflective operation; rather, each state of affection determines a passage to a 'more' or a 'less': the heat of the sun fills me or, on the contrary, its burning repulses me. Affection is therefore not only the instantaneous effect of a body upon my own, but also has an effect on my own duration—a pleasure or pain, a joy or sadness. These are passages, becomings, rises and falls, continuous variations of power [puissance] that pass from one state to another. We will call them affects, strictly speaking, and no longer affections. They are signs of increase and decrease, signs that are vectorial (of the joy-sadness type) and no longer scalar like the affections, sensations or perceptions.*⁸⁶ (G. Deleuze, 1993)

Wendy Grace in her *Faux Amis* arrives at a similar conclusion: "According to Deleuze, for him as for Guattari, it is not *dispositifs* of power that are the constituent forces of life; rather, *agencements* of desire hoard formations of power along in their mechanisms. Certainly, *dispositifs* of power can be vital components of an *agencement*; but in Deleuze's view - and this was the principal difference - power can only be a secondary affect of desire. Deleuze was also uncomfortable with what he saw as Foucault's new emphasis on truth rather than knowledge [...]."⁸⁷ By this 'reversal', Deleuze and Guattari are effectively

ed. Jacques Lucan (New York: Princeton Architectural Press, 1991), p. 162. "[A] project [Exodus] to emphasize that the power of architecture is more ambiguous and dangerous [in comparison to the 'innocence' of Archizoom and Superstudio]. "

⁸⁵ See: Daniel W. Smith, "Deleuze and the Question of Desire: Toward an Immanent Theory of Ethics" in *Parrhesia* (No. 2, 2007), p. 69.

⁸⁶ Gilles Deleuze, "Spinoza and the Three 'Ethics'" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), pp. 138-151.

⁸⁷ Wendy Grace, "*Faux Amis*: Foucault and Deleuze on Sexuality and Desire" in *Critical Inquiry* (No. 36, Autumn 2009), pp 52-75. "Rosi Braidotti claims that Deleuze accompanied

returning to the materialist conception of the unconscious that, according to Grace, erupted brutally in the social conditions of *fin de siècle* European society, but which Freud turned his back on due to his bourgeois prejudices and classical education. At the very end of his rather personal note to Foucault, Deleuze concludes, "what interests me in the two opposed states of the plane or diagram is their historical confrontation, and in very diverse forms. In one case, one has a plane of organisation and development, which is hidden by nature, but which makes seen all that is visible; in the other case, one has a plane of immanence, where there is no longer anything but speeds and slownesses, no development, and where all is seen, heard, etc. The first plane is not identical with the State, but is linked with it; the second on the contrary is linked to a war-machine, to a dream [*rêverie*] of a war-machine [the war-machine being the assemblage which effectuates the micro-givens of the diagram as a plane of immanence]." ⁸⁸

- 105 **Passive Syntheses of Time** Deleuze's account of the passive syntheses is a frontal attack on dialectics. It is meant to undermine the opposition between realism and idealism by 'descending' to the level beneath the subject (architect) and emerging from material processes. Architecture is a Part to Whole problem and as such needs to break from the hegemony of both mechanism and vitalism, neither of which really understands the nature of desiring machines. The difference between the two organising principles - mechanism as a Whole derived from the Parts and vitalism as an 'original' Whole from which the Parts emanate - cannot be resolved by some dialectical totalisation either. What Deleuze and Guattari propose instead is the triad: the presubjective *connective synthesis* of production, the asubjective *disjunctive synthesis* of recording and the *conjunctive synthesis* of consumption, where something of the order of a subject can be discerned for the first time. This is the 'larval subject', too fleeting and transitory to be fixed as a 'subject proper'. As Steven Shaviro explains, it emerges abruptly and unexpectedly only to disappear just as quickly:

and in many ways pursued the Foucauldian project well beyond the aims intended by its initiator." Cf. Rosi Braidotti, *Patterns of Dissonance: A Study of Women in Contemporary Philosophy* (New York: Routledge, 1991), p. 66.

⁸⁸ See: Gilles Deleuze, "Desire and Pleasure" in *Foucault and His Interlocutors*, ed. Arnold I. Davidson (Chicago, [1994] 1997), p. 192. "Could the power-knowledge link such as Michel [Foucault] analyses be explained in this way: the powers imply a plane-diagram of the first type (for example the Greek city and Euclidean geometry). But inversely, on the side of the counter-powers and more or less in relation with the war-machines, there is the other type of plane, sorts of 'minor' knowledges (Archimedean geometry; or the geometry of cathedrals that will be fought by the State); a whole knowledge proper to lines of resistance, and which does not have the same form as the other knowledge?."

When feeling swells beyond a certain point, so that a threshold is crossed, a subject is precipitated into existence. It comes forth with an exhilarating cry: 'So *that's* what it was... So it's *me!* ... It's me, and so it's mine...' Describing the jubilation of this *me*, Deleuze and Guattari replace the Cartesian *cogito* with a more fundamental *sentio*: 'the basic phenomenon of hallucination (*I see, I hear*) and the basic phenomenon of delirium (*I think...*) presuppose an *I feel* on an even deeper level, which gives hallucinations their object and thought delirium its content.' Descartes' *cogito ergo sum* (I think, therefore I am) is a logical deduction, giving rise to a necessary, eternal truth: my act of thinking proves that I really exist. But Deleuze and Guattari's *sentio ergo sum* (I feel, therefore I am) registers a contingent, ephemeral process of emergence: I only exist to the extent that I feel, and in the very instant that I feel. The subject is not a stable, persistent entity, but a momentary flash of self-enjoyment, an ecstatic tremor of *jouissance*.⁸⁹

This is to say that experience first happens, as it were, without me; it is only afterwards that I am able to claim it as 'mine'. The subject becomes a marginal epiphenomenon, a by-product of processes that both precede it and go beyond it. Although the synthesis is often related to the genesis of subjectivity, these 'contemplations' occur everywhere, in the form of proto-perceptions and proto-feelings which even microscopic individual entities may be said to have.⁹⁰ This means that passive synthesis, as the synthesis of the 'living presents', forms the core of Deleuze's theory of *time*. The most radical consequence being, according to DeLanda, that "we not only contract instants to synthesize our psychological sense of present, we are literally *made out* of micro-contractions and *their* presents."⁹¹ [Table lii] *Everything is production*.⁹²

The first connective synthesis marks the production of production. It is the realm of physics, driven by material need, and it corresponds to the

⁸⁹ Steven Shaviro, "The Third (Conjunctive) Synthesis", *The Pinocchio Theory*, <http://www.shaviro.com/Blog/?p=648> (accessed May 25, 2011).

⁹⁰ Percepts go all the way down. They are not just human capacity. Whitehead contends that even atoms make decisions, both upon their perceptual experience and based on certain values. An atom's ability to value (conceptually) is, naturally, much more limited than a human being's. An atom of hydrogen, for example, follows the lure of gravitational gradient of space-time. That is what it 'values'.

⁹¹ See: Manuel DeLanda, "Appendix: Deleuze's Words" in *Intensive Science and Virtual Philosophy* (London: Continuum, 2002), p. 162. Cf. Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 73. "We are made of contracted water, earth, light, and air – not only prior to the recognition or representation of these, but prior to their being sensed. Every organism, in its receptive and perceptual elements, but also in its viscera, is a sum of contractions, of retentions and expectations."

⁹² Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 14.

phenomenal world of Kant's *First Critique*. Association is the *connection*, not just of data (as in Kant's philosophy), but also of bodies or terms into some manifold or experienced thing, an 'assemblage'.

The second disjunctive synthesis is the production of recording. It roughly corresponds to the ethics (politics) of social organization and distribution. It could be said to correspond to Kant's *noumenal*, moral world of the *Second Critique*. *Disjunction* is the subsequent possibility of relations between or among the assembled points of relative stability. We will call it meta-stability. With the disjunctive synthesis, Deleuze and Guattari break open the constraints of the sequential and binary order of a rigid linear connection.

Finally, the third conjunctive synthesis is the production of consumption. As we have seen, it is a purely aesthetic condition and therefore corresponds to Kant's *Third Critique*. Conjunction is the referral of the terms from the second synthesis to the ground or plane across which they range. Whereas for Kant our experienced world of time and space is possible only because there is a subject who experiences and synthesises received impressions into a coherent order, for Deleuze there is no such subject who synthesises. Rather, there are syntheses from which subjects are formed. *There is not a transcendent or external point beyond the world from which synthesis emerges.*⁹³

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CONNECTIVE	DISJUNCTIVE	CONJUNCTIVE
physiological reg. organism production flow (<i>hyle</i>)/machine habit	significance register semiotic (asignifying) recording code/BwO memory	psychological register larval subject consummation subject caesura
	<i>dynamic</i>	<i>static</i>
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lii **Three Syntheses** (b): *In the first synthesis of habit (inspired by Hume), the chronological 'before' and 'after' emerge in the habitual patterns of organic stimulus and response. The second synthesis of active memory (inspired by Bergson) is dependent upon a pure past never actually lived. It is the third synthesis (inspired by Nietzsche) - where habits and memories are lost and only the empty form of time ['time out of joint'] remains - that is the closest to the time of Aion.*

106 **Distribution of the Sensible** It bears repeating that Deleuze and Guattari see absolutely no distinction between a desiring-production and social production.

⁹³ Claire Colebrook, "Disjunctive Synthesis" in *The Deleuze Dictionary*, ed. Adrian Parr (Edinburgh: Edinburgh UP, 2005), p. 78.

The idea of the 'idea behind architecture' is the very platonic idealism we wish to repudiate. Desire is thus 'objective' and immanent: "there is no particular form of existence that can be labeled 'psychic reality'. [...] There is no such thing as the social production of reality on the one hand, and a desiring-production that is mere fantasy on the other. [...] desiring-production is one and the same thing as social production."⁹⁴ This in turn means that there is no individual fantasy. There are only social fantasies, a revelation that effectively turns psychoanalysis on its head. Deleuze and Guattari refer to such 'material psychiatry' as *schizoanalysis* where the connections and disjunctions operate *ad infinitum*. As Smith and Ballantyne recently argued, although "Freud begins to take us to a field where we can enter a discourse of flow - of novel and intense material connections with that which is non-habitual, non-genital, non-human - unfortunately for Freud there is a 'natural' connection and investment; a personalising of desire that ties the ebbs and tides of the libido to the self and the familiar/familial."⁹⁵

The unleashing of desire is essential for our approach, given that we take the conditions of genesis (production) as the conditions of experience to be the very medium of architecture. What distinguishes 'immanent architecture' is that it does not merely fulfil the (pregiven) expectation, it also produces its 'audience': *A people yet to come*.⁹⁶ In contrast to the first volume of *Capitalism and Schizophrenia*, the second volume has a much wider range of registers: cosmic, geological, evolutionary, developmental, ethological, anthropological, mythological, historical, economic, political, literary, musical, and many more (a thousand plateaus).⁹⁷ Despite the introduction of ever more new terms, the abstract machine stays virtually the same: *Together the passive syntheses at all these levels form a differential field within which stratification takes place as an*

⁹⁴ Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 27, 28, 30.

⁹⁵ Christopher Smith and Andrew Ballantyne, "Flow: Architecture, Object and Relation" in *Architectural Research Quarterly* (Vol. 14, No. 1, 2010), pp. 21-27. "It is important that we understand such [intense] engagements in flow not as some form of nirvana of perception but as an intensity of material encounter or connection removed from pre-given rules of engagement and the hierarchies of habit."

⁹⁶ See: Antonio Negri, "On Rem Koolhaas" in *Radical Philosophy* (No. 154, March/April 2009), pp. 48-50. "Let us subjectify this postmodern condition of the metropolis. When from a purely analytical, disenchanting and objective phenomenological reflection we move on to a consideration of the biopolitical, the emergent picture is extraordinarily complex and shows that the production of subjectivity is coextensive with the metropolis. [...] Beyond the hypocritical transparency of the hypermodern, beyond the illusion that urban spaces can be gentrified by Tony Blair's 'creative classes' (here *Junkspace* really does become a weapon of demystification and struggle), we need to free new forms of life and search for new structures of community [...]."

⁹⁷ Every plane is matter unfolding, where relations are effected by specific expressions which, in turn, are events of specific powers to relate.

integration or resolution of that field. As a matter of fact, this machinism dates all the way back to *Difference and Repetition* (1968). We find it especially pertinent given that throughout history there has been a prejudicial tendency to set the realm of sensibility against that of reason or understanding. Deleuze was among the first to propose a transformation of transcendental idealism into transcendental empiricism with far-reaching consequences in both metaphysical and epistemological registers:

If this [transcendental] aesthetic appears more profound to us than that of Kant, it is for the following reasons: Kant defines the passive self in terms of simple receptivity, thereby assuming sensations already formed, then merely relating these to the *a priori* forms of their representation which are determined as space and time. In this manner, not only does he unify the passive self by ruling out the possibility of composing space step by step, not only does he deprive this passive self of all power of synthesis (synthesis being reserved for activity), but moreover he cuts the Aesthetic into two parts: the objective element of sensation guaranteed by space and the subjective element which is incarnate in pleasure and pain. The aim of the preceding analyses, on the contrary, has been to show that receptivity must be defined in terms of the formation of local selves or egos, in terms of the passive syntheses of contemplation or contraction, thereby accounting simultaneously for the possibility of experiencing sensations, the power of reproducing them and the value that pleasure assumes as a principle.⁹⁸

Sensibility itself thus becomes a field of (artistic/architectural) creation and experimentation. Such a thesis invites us *qua* Rancière to examine the distribution of the sensible in the social field as an issue of social and political individuation. The question is no longer that of the ultimate nature of reality, rather it is the distribution of the sensible and insensible within which we find ourselves immersed. [Table liii] We ought to start by distinguishing - what we earlier referred to as - *diagrams* from signs, be they territorial, iconic, symbolic (or hermeneutic). According to Deleuze and Guattari, "defined diagrammatically [...], an abstract machine is neither an infrastructure that is determining in the last instance nor a transcendental Idea that is determining in the supreme instance. Rather, it plays a piloting role. The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality. Thus when it constitutes points of creation or potentiality it does not stand outside history but is instead always 'prior to'

⁹⁸ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 98.

history."⁹⁹ Hence the significance of the Northern Line which 'binds' the undetermined, determinable and (mutually) determined. It is not a given, but that by which a given is given.¹⁰⁰

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INDICATIVE	ABSTRACTIVE	IMPERATIVE	HERMENEUTIC
sensory perceptive	retaining selected affective	effect as end	
physical effect	characteristic	moral effect	imaginary effect
SENSIBLE INDICES	LOGICAL ICONS	MORAL SYMBOLS	METAPHYSICAL IDOLS
<i>TE sign</i> <i>index</i>	<i>RE sign</i> <i>icon</i>	<i>DE sign</i> <i>symbol</i>	Deleuze Peirce
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liii **Four Scalar Signs of Affection:** *A sign, according to Spinoza, can have several meanings, but it is always an effect. An effect is first of all the trace of one body upon another, the state of a body insofar as it suffers the action of another body. It is an affectio - for example, the effect of the sun on our body, which 'indicates' the nature of the affected body and merely 'envelops' the nature of the affecting body.*¹⁰¹
(G. Deleuze, 1993)

For Deleuze and Guattari the machine does not in any way conflict with either culture or nature. The machine is not reducible to the mechanics conceived as the protocol of some technical machines or particular organisation of an organism. Machinism therefore designates every system that cuts off fluxes going beyond both the mechanics (technology) and (active) vitalism: "the unconscious is a factory and not a stage."¹⁰² We will next try to distinguish between the respective

⁹⁹ See Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 141-142.
¹⁰⁰ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 202. "Difference is not diversity. Diversity is given, but difference is that by which the given is given as diverse. Difference is not phenomenon but the noumenon closest to the phenomenon."
¹⁰¹ Gilles Deleuze, "Spinoza and the Three 'Ethics'" in *Essays Critical and Clinical* (Minneapolis: University of Minnesota, [1993] 1997), pp. 138-151. *Nota bene*, for Peirce an icon is a sign which refers to the object that it denotes merely by virtue of its own characters *regardless of whether any such object actually exists*.
¹⁰² See: Gilles Deleuze and Félix Guattari, "In Flux" in *Chaosology*, ed. Sylvère Lotringer (Los Angeles: Autonomedia/Semiotext(e), 1995), pp. 73-74, 88. "[W]hat interests us is the

desiring machines with the working parts of UNS, the immobile motor of NOX and the adjacent part of OMA and their three forms of energy: "Libido, Numen, and Voluptas; and their three syntheses: the connective syntheses of partial objects and flows, the disjunctive syntheses of singularities and chains, and the conjunctive syntheses of intensities and becomings."¹⁰³ [Table liv]

FLOW	CODE	STOCK
need to be controlled e.g. water, social, traffic, immigrants, sewage, somatic (blood, urine, milk) <i>bêtise</i> (stupidity)	controlling of flow (primarily from economics)	
correlative: no flow w/o code and vice versa	correlative of flow	
transmission or exchange from one pole to another input/output	inscription, recording keeping track of the flows	
uncoded flow: nightmare capital/money	code/existence (does NOT pre-exist) e.g. DNA; biological = social it changes, molecular passing along of information	possession related as material or juridical (mine)

liv

Three Syntheses (c): *A machine is defined as a system of cuts, and three different kinds of cuts pertain to the three components of desiring production: the portioning-cut of desiring machines, the detachment-cut from which issues the BwO and the remainder-cut that produces the nomadic subject. [...] Every machine is first of all in relation with a continuous material flow (hylè) into which it slices.*¹⁰⁴ (R. Bogue, 2003)

107 Manimal: Paranoid Machine At the first level of synthesis, the Body without Organs stands opposed to its desiring machines, repelling them in the manner of

presence of machines of desire, molecular micromachines in the great molar social machines. How they operate and function within one another. [...] So we are trying to show how the fluxes flow into different social fields, what they flow on, what they are invested with, ['primitive'] encoding, [Barbaric] overcoding, [capitalist] decoding."

¹⁰³ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York: Penguin, [1972] 2008), p. 338.

¹⁰⁴ Ronald Bogue, *Deleuze on Literature* (New York and London: Routledge, 2003), p. 63.

a 'paranoiac machine'.¹⁰⁵ This can be regarded as analogue to what Deleuze called the 'pure present' in *Difference and Repetition*, since the paranoiac machine immediately erases whatever appears on its surface in order to allow for something new to appear.¹⁰⁶ The passive perceptual syntheses of imagination are preceded by a myriad of passive syntheses at the organic level, thus making the organism 'the primary habit it is'.¹⁰⁷ Habit (Habitus) is therefore a contraction of habitual contractions that occur on multiple levels. The synthesis of habit, in turn, precedes the memory and recollection of conscious thought. The contraction is not a reflection.¹⁰⁸ It provides a 'rule' in the form of sensory-motor responses to present stimuli that anticipate the future on the basis of the past.¹⁰⁹ At this level an (physical) organism could be said to be ruled by instinctual response. The 'connective syntheses of production,' through which linear sequences of the 'and then' form are constituted, remains undetermined. However, it captures an aspect of the intensive, the machinic assemblage, by connecting or coupling heterogeneous 'partial objects' through the emission of 'energy flows'.¹¹⁰

If there is a plane of composition that has marked the oeuvre of UNS then it is the Manimal, a computer-generated image of the hybridisation of a lion, a snake and a human: "As a technique, it [Manimal] excites because it has been produced in a manner radically different from all pictorial techniques that have been previously employed by artists."¹¹¹ [Table Iv] According to Ben van Berkel

¹⁰⁵ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 9.

¹⁰⁶ See: Andrew Cutrofello, "On the Idea of a Critique of Pure Practical Reason in Kant, Lacan, and Deleuze" in *Deleuze and Philosophy*, ed. Constantin V. Boundas (Edinburgh: Edinburgh University Press, 2006), pp. 59-69.

¹⁰⁷ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 74.

¹⁰⁸ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 91.

¹⁰⁹ Tamsin Lorraine, "Living a Time Out of Joint: Sense, the Event and the Time of Aion" in *Between Deleuze and Derrida*, ed. Paul Patton and John Protevi (London and New York: Continuum, 2003), pp. 30-46. "Deleuze derives a notion of the living present as a contraction or synthesis of time from Hume: two moments (for example the tick-tock of a clock) are impressed upon the imagination which acts as a kind of sensitive plate that retains one moment (or one case of two moments) as the next appears. This results in a living present that is a synthesis of the past (the retention of preceding moments or cases, say two tick-tocks) and the future (anticipation that the next moment or case will be like the past, the expectation that yet another tick-tock will follow)."

¹¹⁰ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 309, 323. Here the term 'partial' is not used in its extensive sense but in the sense of matter filling space to a given degree of intensity. "The eye, the mouth, the anus as degrees of matter."

¹¹¹ Ben van Berkel and Caroline Bos, *Move: (2) Techniques: network spin* (Amsterdam: UN Studio & Goose Press, 1999), pp. 78-85.

and Caroline Bos, there are three main aspects that make the hybridising technique of the Manimal architecturally interesting and concern the relations of the technique with the author, time and mereology. The first concerns the ambiguity of 'authorship,' given the plurality of "sometimes invisible" participants (not excluding the software programmers). The relation to time is one of continuous variation or "a sequence that could, in principle, run indefinitely." Thus, UNS openly express anxiety over "freezing architecture in time" given that, according to them, only change exists. Most importantly, with regard to the Part-to-Whole relation, the unity of the Manimal as an image is not disrupted by the diversity of its ingredients, which is what distinguishes the technique the most from the traditional technique of collage:

This is the most radical choice for architecture to face. The totalising, decontextualising, dehistoricising combination of discordant systems of information can be instrumentalised architecturally into one gesture. [...] The architecture of hybridization, the fluent merging of constituent parts into an endlessly variable whole, amounts to organisation of continuous difference, resulting in structures that are scale-less, subject to evolution, expansion, inversion and other contortions and manipulations. Free to assume different identities, architecture becomes endless.¹¹²

Ever since its appearance the Manimal has been the *spiritus movens* of UNS and continues to feature prominently in their discourse. Its genealogy is well known by now: from the 'fragmented organisation of disconnected parts' to the 'displaced organisation of connected parts' to the 'seamless organisation of disconnected parts' or the "portrait of becoming."¹¹³ The first 'fragmenting' paradigm is illustrated by the exploded view of Le Corbusier's Villa Savoye, accompanied by the Bauhausian mannequin head adorned/enhanced in the technique of collage as a seam: stitching together separate parts that retain their respective identities. By contrast, the second 'displacing' paradigm is exemplified by the formal analogy between Francis Bacon's figural (neither figurative nor abstract) portrait and a piece of architectural metabolist megastructure (architecture cum urbanism). It is presented as a transition phase towards the endless (and, and, etc.) which is, of course, illustrated by the Möbius Strip as

¹¹² UNS find a precedent for such an approach - the convergence of sameness and difference into one coherent structure - in the work of Frederick Kiesler. He is their 'second icon of hybridization'. See: Ben van Berkel and Caroline Bos, *Move: (2) Techniques: network spin* (Amsterdam: UN Studio & Goose Press, 1999), p. 83.

¹¹³ Daniel Birnbaum and Greg Lynn in conversation with Ben van Berkel and Caroline Bos, "Digital Conversation" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), p. 15. "We have never had a lot of faith in interpretation."

well as the Manimal itself. The fascination with the 'production of production' ranks UNS among the leading architects of the Flow in the very precise sense of the libidinal form of energy. As Aaron Betsky points out, from the beginning UNS have used the body as a model (and metaphor): "Up to this point, the architects had argued for the emergence of form out of the manipulation of physical material. They proposed what they called the 'invisible detail'. They articulated this detail in opposition to either the articulated meeting of materials that structural expressionism would champion, or the smooth making of enclosed forms that would seek to deny the physicality of the object. Instead, they thought that details should drink in the difference between materials, make possible their meeting, allow the form to be folded, and then disappear."¹¹⁴

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 Manimal = lion AND snake AND man
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Manimal - Paranoiac Machine: *[T]he manimal may be nothing but the latest incarnation of Proteus, the mythical being without essence, which is able to manifest itself in any guise, identity or form. For many artists this myth has told them what it means to make things, to construct, to be an artist.*¹¹⁵ (C. Bos, 2002)

Their *Move* (1999) opens up not only with kaleidoscopic images but also chains of seemingly unrelated terms.¹¹⁶ However, this uncompromising decontextualising and dehistoricising strategy comes at a price. When asked how to negotiate the difference between the (anthropocentric) scale-dependency and the (geocentric) scalelessness, the conceptual persona remains utterly consistent

¹¹⁴ Aron Betsky, "Unfolding the Forms of Unstudio" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), pp. 9, 11. Cf. Ben van Berkel and Caroline Bos, "Corporal Compactness" in *Mobile Forces* (1994), pp. 176-181.
¹¹⁵ Daniel Birnbaum and Greg Lynn in conversation with Ben van Berkel and Caroline Bos, "Digital Conversation" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), p. 14.
¹¹⁶ See: Ben van Berkel and Caroline Bos, *Move: (1) Imagination: liquid politic* (Amsterdam: UN Studio & Goose Press, 1999), pp. 10-11. "Sex, Warhol, Television, Disney, Fellini, Resonance, God, Pornography, Therapy, Tarkowski, Politic, XTC, Money, Bergman, Barbie, UFO, Mao, New Age, Kinsey, Fashion, Frank Zappa, Fear, Megalomania, Diana, Versace, Le Corbusier, Totalitarianism, Stalin, Inspiration, New Age, Fundamentalism, Globalism, Hollywood, Sign, Madonna, Utopianis, Drugs, Trance, Drugs, Space age, Science fiction, Black Holes, Alienation, Connectedness, Complexity, Funkadelic, Riefenstahl, Fractals, Porsche, Chaos, Cyberpunk, Dali, Feminine, Sony, Individuality, Medical science, Therapy, Fashion, Oblivion, End of world scenario, Pippi, Glamour, Scandal, Marilyn Monroe, Celebrity, Nietzsche, Nintendo, Serialism."

in failing to give an answer.¹¹⁷ This is simply not an issue for UNS given their theoretical and practical agenda. The Manimal, as we see it, stands not for keeping track of the flow, but for the flow itself, any flow.¹¹⁸ UNS refer to such 'non-reductionist' approach as 'Deep Planning'.¹¹⁹ The ease with which a myriad of 'partial objects' is handled by this 'paranoiac machine' is a proof of fact: "Move introduces inclusiveness in the design approach [...] Inclusiveness allows fragmentation and difference to be absorbed into a coherent, continuous approach, abandoning the strategies of fragmentation and collage. [...] The inclusive model is anti nothing."¹²⁰ What UNS also abandon unapologetically is history: "We have already forgotten history, shaken off the metaphors belonging to wood, bricks and steel. We have already seen emptiness. Now it is time to redefine materiality."¹²¹ And redefine it they did. Not according to the chemical composition, or *vis-à-vis* sensibility, but on the basis of performativity in the emergence of the project. For UNS, 'between art and airports', only the present matters, and entire processes are rendered visible.¹²² Its favourite colour is blue, the colour which, according to the trend forecaster Edelkoort, "undoes form".¹²³

¹¹⁷ Ben van Berkel, "The New Understanding" *Kenzo Tange Lecture at Harvard University, Graduate School of Design* (March 3, 2011),

http://harvard.vo.llnwd.net/o18/gsd/03032011_Berkel.mp4 (accessed May 25, 2011).

¹¹⁸ The *Midtown (NY) cross-section* diagram is illustrative: flow of passengers into Manhattan, flow of passengers (subway), flow of goods into Manhattan, actual building horizon, building height permitted by zoning. See: Ben van Berkel and Caroline Bos, "Deep Planning" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), pp. 46-47.

¹¹⁹ "[...] a new design methodology capable of generating dynamic and interactive organizations that allow, on any scale of the project, the integration of 'economics, infrastructure, programme and construction in time', proposing multiple possibilities of actualisation." See: Paola Gregory, *New Scapes: Territories of Complexity* (Basel: Birkhäuser, 2003), p. 21. See also: Ben van Berkel and Caroline Bos, "Deep Planning" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), pp. 38-39.

¹²⁰ See: Ben van Berkel and Caroline Bos, *Move: (1) Imagination: liquid politic* (Amsterdam: UN Studio & Goose Press, 1999), pp. 15, 221. UNS refused to take sides in the Blob/Box debate at the turn of the century: "Blob or box - it doesn't matter anymore [...] Rationality and fantasy coincide."

¹²¹ See: Ben van Berkel and Caroline Bos, *Move: (1) Imagination: liquid politic* (Amsterdam: UN Studio & Goose Press, 1999), pp. 156-157.

¹²² "[S]uch is our inconsistency and impatience, which you could also say is an irrepressible belief in the imagination. This is why the unlikely coupling of art and airports to us represents a new statement, a figment, an appeal to an imagination that is both public and private and that cannot be ignored." See: Daniel Birnbaum and Greg Lynn in conversation with Ben van Berkel and Caroline Bos, "Digital Conversation" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), p. 21.

¹²³ See: li Edelkoort, "in Free fall" in *UN Studio - Unfold* (Rotterdam: NAI Publishers, 2002), p. 96-97, 108-109. "[...] blue dissolves contrasts and wipes out details."

108 **D-Tower: Miraculating Machine** Corresponding to the constitution of a 'pure past' are the disjunctive syntheses by which whatever is produced through the connective syntheses is recorded on the surface of the Body without Organs. BwO therefore functions as a gigantic memory or 'pure past' (Mnemosyne). This past is 'pure' in the sense that it does not contain entities open to representation. It also makes the present pass, as it were.¹²⁴ This 'miraculating machine,' which attracts rather than repels the desiring-machines that populate it, becomes determinable (although not determined).¹²⁵ The 'disjunctive syntheses of recording', have the form of 'either ... or ... or'. At this level a life form can engage in signifiante.

In *Creative Evolution* (1907), Bergson claims that what distinguishes the instinctual response from a free response of a thinking organism able to make choices is that there is a gap between the stimulus and response of the latter.¹²⁶ The disjunctive synthesis involves the creation of divergent relations among the series that occur on the Body without Organs.¹²⁷ It therefore refers to the virtual continuum, "a pure fluid in a free state, flowing without interruption, streaming over the surface of a full body."¹²⁸

¹²⁴ "When the present is a dimension of the past the process relating the two is different from when the past is a dimension of the present. With the past as prior, processes of making pass and changing relations in the pure past come to complement the process of contraction in the living present. There is therefore an extraordinary richness and potential for experimentation and applications in Deleuze's philosophy of time." See: James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), p. 14.

¹²⁵ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 11. See also: Gilles Deleuze, "Schizophrenia and Society" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los Angeles: Semiotext(e), 2006), pp. 20-21. "[T]he organless body attracts the organs, appropriates them for itself, and makes them function in a regime other than the one imposed by the organism, in such a way that each organ is the whole body-all the more so, given that the organ functions for itself and includes the functions of all the others. The organs are thus 'miraculously' born on the organless body, obeying a machinic regime that should not be confused either with organic mechanism or with the organization of the organism."

¹²⁶ The instinctual organism responds with the one response the stimulus calls for. The thinking organism can make a choice between more than one kind of response through a comparative analysis of situations that may be similar although they are never exactly the same. This allows the organism to learn from situations and adapt its responses to changing circumstances. See: Henri Bergson, *Creative Evolution* (New York: Dover Publications, [1907] 1998).

¹²⁷ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 13.

¹²⁸ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 8.

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The tower is twelve metres tall and made of epoxy. During daytime, it is white-greyish, while at night, from 8 p.m., the tower is lit up by LEDs. It has four colours. The colour of the day is fed by a website on which a group of Doetinchem volunteers keep their journal. Each day over the course of six months they answer 50 questions about fear, hate, love and happiness. The computer, which was meant to be operative until mid 2011, measures the day's emotions based on the answers. At night, it shows the city's emotion of the day: EITHER red which stands for love, OR blue which stands for happiness, OR yellow which stands for fear, OR green which stands for hate.

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D-Tower - Miraculating Machine

In *Anti-Oedipus* (1972), Deleuze and Guattari present the flow and the code as correlative notions. There is no code without the flow and vice versa. It comes as no surprise that uncoded flow represents a true nightmare from the point of view of any society, for it is quite literally elusive and fleeting. The code, as opposed to the flow, introduces a measure of attraction and zones of convergence. The coding process is therefore not inclusive, but exclusive, which is to say that it is not a matter of the production of production but rather the production of recording. It is no coincidence that Lars Spuybroek, the principle of NOX, is not only well versed in history but also openly critical of the atemporality associated with mainstream modernism.¹²⁹ His D-Tower from 2003 is a paradigmatic example of the production of recording.¹³⁰ In the words of Massumi:

The tower changes color according to the results, becoming a beacon of the collective mood. Affect has been given visual expression. The predominant affective quality of people's interactions becomes visible. This can undoubtedly reflect back on the interactions taking place in the town by making something that was private and imperceptible public and perceptible. A kind of feedback loop has been created between private mood and public image that has never existed in quite this way before.¹³¹

¹²⁹ "The new doesn't come from the future, it comes from the past. That's what potentiality is: a mating of old existing events patterning into tendencies, an unfolding of events." Lars Spuybroek, "Sensograms at Work: In Conversation with Cho Im Sik in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 164.

¹³⁰ D-Tower was created in collaboration with the Rotterdam-based artist Q.S. Serafijn.

¹³¹ "There are any number of ways for creating this kind of eventful cross-connection, between different perceptual modes, different phases of perception formation, and between perception and affect. What has been accomplished thus far is just the tip of the iceberg. It is crucial to note that - to the extent that these connections are made - the digital technologies that may be used are not functioning primarily to transmit information.

Whereas UNS seem to be oblivious to the issues of signifi(c)ance, it is quite the opposite in the case of NOX. The mood of Doetinchem is not red AND blue (love and happiness), but EITHER red OR blue (love or happiness). It is not the Tower that is the Body without Organs, but the whole of Doetinchem. If anything, the Tower is an *ad hoc*-grown Organ (without the Body). [Table lvi] While UNS are concerned with the 'problem' (of endlessness), NOX seem to be more interested in the 'solution' (or convergence, i.e. singularities). Hence the title of recent *The Architecture of Continuity* (2008). The polar opposite of this continuity, with a Numenal form of energy - which refers to the coming-together of action-perception-construction (relation) - is not discontinuity but endlessness itself (infinite).¹³² Of the three conceptual personae, it is NOX that most explicitly embraces the Northern Line, although - in this particular case - we had better used the synonym 'Gothic'.¹³³ In the words of Spuybroek:

'The Ceaseless Melody of the Northern Line' is one of the chapters in his [Worringer's] book *Formprobleme der Gotik* (1911) - in English, *Form in Gothic*. Let's just start off with: "in Northern ornament repetition does not bear this restful character of addition..." - and with this he means classicist symmetry - "... but has, so to speak, a character of multiplication. The intervention of any desire for organic moderation and serenity here is lacking." A shot right between the eyes of Alberti. Symmetry replaced by repetition, by serial rhythms of multiplication. Nobody really understood at the time how Worringer could have done this book on the gothic three years after his famous *Abstraction and Empathy* (1908), which became the bible of early abstract painters. But it's the same expressionism: "the Northern line does not get its life from any impress

What they are doing, through the transmission of information, is triggering real, lived events that involve a qualitative transformation. Information delivery is the least interesting thing they do. It is only interesting to the extent that it feeds the creative emergence of new forms of lived experience." See: Brian Massumi, "Transforming Digital Architecture from Virtual to Neuro: An Interview by Thomas Markussen and Thomas Birch" in *Intelligentagent* (Vol. 5, No. 2, 2006), http://www.intelligentagent.com/archive/Vol5_No2 (accessed May 25, 2011).

¹³² The Latin word *numen* originally and literally meant 'nodding'. It has the sense of inherent vitality and was also associated with the terms for 'command' or 'divine majesty'.

¹³³ See: Lars Spuybroek, *The Sympathy of Things; Ruskin and the Ecology of Design* (Rotterdam: V2 Pub./NAi, 2011), pp. 46-47. "[...] the Gothic has nothing of engineer's art, nor of some transparent pre-high-tech, because it treats structural forces as equal to compositional ones it regards as just as real and powerful. All forces are real, all things are real, not just material ones. [...] In a sense, the Gothic is even more materialist than the engineer's approach, since it extends the thinking in forces to the realm of the social, aesthetic and religious."

which we willingly give it, but appears to have an expression of its own, which is stronger than life.¹³⁴

What sets NOX apart is the attention to what is happening (genealogy) in what happened (archaeology) or the attention to the distribution of singularities on the Body without Organs: "Life Constructs. Agency builds."¹³⁵ The vagueness of BwO is not to be taken as a lack of logic, but quite the opposite. According to Spuybroek, it is precisely that which constitutes relations. Most importantly, these relations are exterior to their terms. It is the relations that create the Whole, and not the Parts or finalities as Spuybroek calls them. Finality, in turn, is the polar opposite of generality: "[...] things are necessarily vague [not ambiguous], since *they are one and many at the same time*."¹³⁶ [emphasis added] It is for this reason that diagramming is still the most important innovation in architecture, claims Spuybroek. On a techno-cultural level, diagramming signifies a move toward metadesign or "Designing the way of designing itself."¹³⁷

109 **Naked Boxer Eating Oysters: Celibate Machine** Finally, the conjunctive syntheses give rise to the 'celibate machine,' which, as the practical equivalent of the 'pure future' (Nietzschean Eternal Return), unites the repulsive tendency of the paranoiac machine and the attractive tendency of the miraculating machine.¹³⁸

¹³⁴ See: Lars Spuybroek in an interview by Arjen Mulder "The Aesthetics of Variation" in *Interact or Die*, ed. Joke Brouwer and Arjen Mulder (Rotterdam: V2 Pub./NAi, 2007), pp. 142-143.

¹³⁵ See: Lars Spuybroek, "Experience, Tectonics and Continuity" " in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), p. 19.

¹³⁶ See: Lars Spuybroek, "Experience, Tectonics and Continuity" " in *The Architecture of Continuity; Essays and Conversations* (Rotterdam: V2 Pub./NAi, 2008), pp. 23-24. "If you look at a bird, for example, obviously it is a finalized form with clear contours, but that doesn't help you to understand what a bird is; you have to see it fly first, which makes it less clear, and then you can only understand its flight when you take the air into account, which makes it completely vague."

¹³⁷ See: Lars Spuybroek, "Motor Geometry" in *Arch+* (No. 138, October 1997). "I'm trying to move architecture in the direction of systems theory. The old sketch method would go like this: first you look at the parts (rooms, stairs, entrance, etc., etc.) then you try to take a look at the whole, this is most often done by very old tools like the grid, the box, or the axis. Then the designwork is the difficult 'shaking up' of these two viewpoints (concentrating on a part/trying to see the overview): bringing them as close as possible, trying to close the gap between the whole and its parts - a very old philosophical problem... That is how we learned it at school. What I do [instead] is building a machine, almost always in the computer, what one should call a 'virtual whole', a matrix, a geometric system where all relations are set but not fixed, and then all the information is processed over time. [...] in the end, what counts is 'what can the diagram do for you!'"

¹³⁸ In Nietzsche's notion of the eternal return, all events communicate and no predicate is excluded in the event of events. This is a synthetic affirmative disjunction which spells

The 'eternal return' is defined by Deleuze in a very formal manner, as summed up by Williams in the following proposition: *only difference returns and never the same*.¹³⁹ This, in turn, means that novelty is always an expression of pure differences in new events. The three machines - paranoiac, miraculating and celibate - are strictly non-sequential. The 'last' one is the locus of *jouissance* and affirmation: *sentio ergo sum*. The 'conjunctive syntheses of consumption' take the form of a reciprocally determined mode of existence by (retroactively) concluding 'so it's...'¹⁴⁰ This is a 'larval subject', beyond the human, who affirms life by evolving with (rather than within) an unrepresentable time, "a strange subject with no fixed identity, wandering about over the body without organs [...] being born of the states that it consumes [...]"¹⁴¹ The conjunctive synthesis thus involves the creation of convergent relations among series, an operation which forms 'individuation fields' that already prefigure the intensive (pre-actualization).

If the interest of UNS lies in the physiological register and that of NOX in the register of signifiante, then OMA could be said to have an ongoing interest in the psychological, with *Voluptas* as its form of energy.¹⁴² The Downtown Athletic Club from Koolhaas' *Delirious New York* (1978) provides for (metropolitan) conditions which engender (larval) subjects that consume them. [Table lvii] According to the architectural historian Hans van Dijk, Koolhaas does not use the Club's section only as a corrective intervention in order to resist the banality of the high-rise, or for the mere programme distribution as that would amount to the ordinary (reductive) use of a diagram. Rather, the Club's section becomes a deliberate *design device* to employ the 'abstract machine' which produces the skyscraper and makes it susceptible to the unforeseen.¹⁴³

death to the self, the world, and God "to the advantage of divergent series as such, overflowing now every exclusion, every conjunction, and every connection." See: Gilles Deleuze, *The Logic of Sense* (New York: Columbia UP, [1969] 1990), p. 176.

¹³⁹ "This means that only pure differences return from the pure past to be expressed in novel events. Anything identified as the same, as something that can be the same, can never return. So as a novel event everything travels through time, by cutting it [caesura], by ordering it [before and after], by assembling it, by setting it into series and by returning through the pure differences it actualises or expresses." See: James Williams, *Gilles Deleuze's Philosophy of Time: A Critical Introduction and Guide* (Edinburgh: Edinburgh UP, 2011), pp. 16, 94.

¹⁴⁰ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 12, 16.

¹⁴¹ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 16.

¹⁴² In Roman mythology, *Voluptas* or *Volupta* was the beautiful daughter born from the union of Cupid and Psyche. She is one of the Charites, or Three Graces, and is known as the goddess of "sensual pleasures" whose Latin name means 'pleasure' or 'bliss'.

¹⁴³ Hans van Dijk, "Critical project or the project of criticism?" in *The architectural annual 2003 - 2004*, ed. H. Bekkering, D. Hauptman, H. de Jonge, H. Veldhuizen, & H. Wanders

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 In *Delirious New York* (1978), Koolhaas studied how the programs of the 38-storey *Downtown Athletic Club* subverted the usual uniformity of the blank-faced tower to become the "apotheosis of the Skyscraper as instrument of the Culture of Congestion." The Club harbours a sometime surreal collection of activities - squash courts, a swimming pool, a colonic center, an indoor golf course - united only by the circulatory core of 13 elevators that unite and feed all the floors. The 9th combines a room full of punching bags with an oyster bar. "Eating oysters with boxing gloves, naked," says Koolhaas, "such is the 'plot' of the ninth story, or, the 20th century in action."
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lvii **Naked Boxer Eating Oysters - Celibate Machine**

The free-section, according to Kipnis, is the necessary invention; "a recasting of the metropolis's vertical infrastructure into a building device to achieve the unregulated anonymities - and thus stage the unfettered behaviors - that are not possible in free-plan." In this sense it is the reworking of the first triad - Performative, Conceptual, New Authentic - in order "to detach the subject in a building from the regime of immediate experience, with its emphasis on satisfied expectations and phenomenological, haptic, aesthetic, and symbolic pleasures, in order to place them elsewhere as subjects of a different spatial regime, one with other pleasures, other expectations, other politics."¹⁴⁴ This makes OMA an expert in the 'production of consumption or consummation', both libidinal and political, which is virtually the same.¹⁴⁵ However, by no means does the (quasi)subject

(Rotterdam: 010 Publishers, 2005), pp. 68-75. "Later, the Downtown Athletic Club section was rotated 90 degrees to become the plan of his *La Villette* park competition entry. A major shift in his work occurred when complex programmatic demands transformed the Chicago Frame (or, for that matter, the Domino skeleton) into a continuous sloping floor. Starting with the *Kunsthal* in Rotterdam, this strategy finds its clearest expression in the design for the *Jussieux Library* and was applied with great sophistication in the *Dutch embassy* in Berlin and the *Seattle Central Library*."

¹⁴⁴ Jeffrey Kipnis, "Moneo's Anxiety" in *On Criticism, Harvard Design Magazine* (Fall 2005), p. 103. "Thus in order to produce their intended effects in a building, i.e., to transport one from comfort and accommodation to metropolitan intensity, the plan-as-diagram and free-section program must together erase the given institutional program and its accreted architectural tropes."

¹⁴⁵ We side with Graafland who finds the short chapter from *Delirious New York* on The Downtown Athletic Club (DAC) to be symptomatic of the entire OMA design philosophy: "The DAC [...] also reveals how a number of OMA's big projects are assembled." See: Arie Graafland, "Introduction" in *Architectural Bodies*, ed. Michael Speaks (Rotterdam: 010 Publishers, 1996), pp. 8-9. See also: Gilles Deleuze, "Four Propositions on Psychoanalysis" in *Two Regimes of Madness: Texts and Interviews 1975-1995* (Los

come ready-made only to be detached, rather, it is *reciprocally* determined.¹⁴⁶ It can therefore only declare (in retrospect) "so that's what it was."¹⁴⁷ It is a 'celibate machine'. In the words of Arie Graafland:

Koolhaas describes The Downtown Athletic Club in Manhattan (DAC) as a [bachelor] machine where the New York 'bachelor' brings his body into peak condition. To find that original idea which was ultimately realized in America, we must turn to a second machine ['the culture of congestion' a.k.a. Ginzburg's 'social condenser' being the first], that of Marcel Duchamp, who a few years previous to DAC had realized his *La Mariée mise à nu par ses célibataires, même* [The Bride Stripped Bare by Her Bachelors, Even]. [...] Indeed, from Beckett to Duchamp, this is an important impulse in the thinking of a number of intellectuals at the beginning of this [twentieth] century.¹⁴⁸

Angeles: Semiotext(e), 2006), p. 88. "Our view [Deleuze and Guattari] [...] presupposes only one economy [the political *and* the libidinal], and thus the problem [...] is to show how unconscious desire sexually invests the forms of this economy as a whole."

¹⁴⁶ "If there is to be a 'new urbanism' it will not be based on the twin fantasies of order and omnipotence; it will be staging uncertainty; it will be no longer concerned with the arrangement of more or less permanent objects but with the irrigation of territories with potential; it will no longer aim for stable configurations but for the creation of enabling fields that accommodate processes that refuse to be crystallized into definitive form; it will no longer be about meticulous definition, the imposition of limits, but about expanding notions, denying boundaries, not about separating any identifying entities, but about discovering unnamable hybrids; it will no longer be obsessed with the city but with the manipulation of infrastructure for endless intensifications and diversifications, shortcuts and redistributions - *the reinvention of psychological space*." [emphasis added] See: Rem Koolhaas, "What Ever Happened to Urbanism" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), pp. 961-969.

¹⁴⁷ "To Koolhaas, [...] Generic City is fragmented by definition: its totality is no longer held together by the public domain, but characterized by the category of residual." See: Steven Jacobs, "Shreds of Boring Postcards: Toward a Posturban Aesthetics of the Generic and the Everyday" introduction to *Post Ex Sub Dis: Urban Fragmentations and Constructions*, ed. Ghent Urban Studies Team (Rotterdam: 101 Publishers, 2002), p. 27. Cf. Rem Koolhaas, "What Ever Happened to Urbanism" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), pp. 958-971. "The professionals of the city are like chess players who lose to computers [...] They are now specialists in phantom pain: doctors discussing the medical intricacies of an amputated limb."

¹⁴⁸ Arie Graafland, "Artificiality in the Work of Rem Koolhaas" in *Architectural Bodies*, ed. Michael Speaks (Rotterdam: 010 Publishers, 1996), pp. 39-65. "As with every bachelor machine, here too the subject (the athlete) is produced as a remainder, an appendage to the big machine to which he is connected. As we have seen, Deleuze and Guattari characterized the bachelor machine as a machine of consumption, a gratification that could be called auto-erotic. [auto-affective]. This mechanical eroticism proclaims a new connection. A new power is liberated. [Voluptas]."

As we have seen, Deleuze rejects the Kantian restriction of synthesis to the active 'I think' and the relegation of the passive self to receptivity. That is to say that the bachelor/celibate machine is not the same thing as the willing machine. The bachelor is a playful suitor, as with Duchamp, hovering on the border between the respectable and the unknown, and hence suspect, that is forever produced as a new alliance between the paranoid and the miraculating, between desiring machines and the Body without Organs. The celibate machine thus creates the nomadic subject as a residue, something left over. This subject can be an individual, text, practice, architecture or an institution. It is an offshoot of a particular constellation of forces. The opposition between the forces of attraction (continuum) and repulsion (endlessness) produces an open series of intensive positive elements that are never to reach the state of equilibrium of a system. Instead, they express a variety of metastable states which a (larval) subject undergoes. It is worth repeating that - contrary to popular belief - a nomad does not move but stays put. Instead of changing his *habitat*, like a migrant or a sedentary, a nomad changes his *habit*. The nomadic subject "consumes and consummates each of the states through which it passes, and is born of each of them anew."¹⁴⁹ Abou-Rihan explains the significance of this ontogenetic *imbroglio*:

Through the conjunctive (it's me and so it's mine...) synthesis, Deleuze and Guattari are effectively redefining insight and in the process rearranging the terms if not the relevance of the debate here. The conjunctive synthesis is ostensibly a "so that's what it is!" moment of insight and a clarity identified by its effect to reorganize radically not only delirium (thought) but hallucination (perception) and intensity (experience) as well. The "so that's what it is!" is not so much a revelation or an uncovering of the subject to itself but the *making of a subject*.¹⁵⁰ [emphasis added]

While the subject does depend on the interaction between *I experience*, *I think*, and *I see*, Abou-Rihan continues, "it is not the sum total of all three moments or modes [intensity, delirium and hallucination]; it is an offshoot and a side-effect

¹⁴⁹ Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 20, 40. "[T]he lived state coming first, in relation to the subject that lives it."

¹⁵⁰ "Instead of simply eliciting in the analysand a greater sense of subjective responsibility, or a greater capacity to tolerate anxiety and its ambivalence, or even a broader affective vocabulary or repertoire, the conjunctive synthesis is quasi traumatic in its quality for it is the signpost of a radical shift in the subject's thought, perception, and experience, which is to say in the subject's way of deploying itself for itself and for others." See: Fadi Abou-Rihan, "Subjects-Insights" (January 20, 2008), <http://thepsychoanalyticfield.com/category/deleuze/page/2/> (accessed May 25, 2011).

rather than a unity precisely because it is constantly disrupted by its nature as a subject in *jouissance*.¹⁵¹ In this way Deleuze and Guattari manage to rebut a long tradition in both philosophy and psychoanalysis that has insisted on inscribing the subject as primarily grounded in thought (Descartes) or language (Lacan). Such fetishistic subjects have deluded themselves into thinking in the mode of the ready-made that is at the centre of its various experiences and understandings, *separate* from the constellation of intensities that it undergoes.

This revelation sheds a new light on the critique of Koolhaas' alleged regressive strategy of frequent reference to retroactivity.¹⁵² Take, for example, his report on a student field trip to Berlin in the early seventies. Under the subtitle *Reverse Epiphanies*, Koolhaas admits to the following 'negative revelation': "The [Berlin] wall also, in my eyes, made a total mockery of any of the emerging attempts to link form to meaning in a regressive chain-and-ball relationship."¹⁵³

¹⁵¹ *Jouissance* is neither pleasure nor enjoyment; it is what goes beyond either of these two states.

¹⁵² The critique, surprisingly, includes not only the likes of Karl Chu ("What is needed is a radicalisation of the prevailing paradigm of architecture, beyond retroactive manifestos, by developing a new concept of architecture that is adequate to the demands imposed by computation and the biogenetic revolution."), but also Koolhaas' ex-partners. Bidding farewell to the outgoing and welcoming the incoming Dean of the Berlage Institute, Roemer van Toorn asked architects, theoreticians, curators and the Berlage alumni to reflect upon the question of 'What will/should the architect enact tomorrow?' One hundred and nine 'provisional' answers were given and subsequently published in alphabetical order. The contribution of Elia Zenghelis was appropriately listed last and not (just) thanks to the alphabetical order. He was tasked with giving the 'final thought'. This former partner of Rem Koolhaas', a doyen of architecture and distinguished pedagogue, underscored the need to 'Start Again' in architecture and urbanism. He effectively argues that it is not possible to use the strategy of the 'retroactive manifesto' anymore. Nor is it possible to rely on the systematic idealisation of data generated by the latest phase of capitalism, which has won the Dutch international fame. It is the structure, the language of architecture, the formal instead of the program, according to Zenghelis, that is capable of countering the culture of sprawl today. What Zenghelis proposes, in short, is to investigate the *syntax of matter*, rather than the *sociology of space*. See: Elia Zenghelis, "Our Profession" in *Hunch* 6/7 (Rotterdam, Episode Publishers, 2003), pp. 508-509. See also: Karl Chu, "Metaphysics of Genetic Architecture and Computation" in *AD: Programming Cultures; Art and Architecture in the Age of Software*. (No. 76(4), 2006), p. 42.

¹⁵³ Rem Koolhaas, "Field trip: (A)A memoir (First and Last...)" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), pp. 214-233. See: Rem Koolhaas, Interview by Hans Ulrich Obrist, "Trajectory as a Positive, OMA" in *Art Orbit* (No. 4, 1999), <http://artnode.se/artorbit/> (accessed May 25, 2011), <http://artnode.se/artorbit/> (accessed May 25, 2011). "I was a student at the end of sixties, the end of a period of an innocent way of looking at architecture in general. There was especially an optimism that architecture could participate in the liberation of mankind. I was sceptical about this, and instead of going to Mediterranean villas or Greek fishing villages to 'learn' (as most people

The wall's meaning, according to him, appeared to change almost daily or even hourly, often depending on remote events and decisions. "So, that's what it was." It turned out that its significance, as a piece of architecture, was in fact marginal. According to Kari Jormakka, any architecture is "a virtuality relative to the life that actualises itself inside [and without]", and "the building is one of the preconditions that enables a certain kind of unfolding of life without determining it."¹⁵⁴ Koolhaas, by his own admission, would never again believe in form as the primary vessel of meaning. How could he (*symptomatology*), given the ubiquitous capitalist machine which decodes flows and deterritorialises the socius, only to conjoin them anew (axiomatise) on its immanent field in order to extract a surplus value. The question arises of whether the energy released via production (of consumption) can be reclaimed as *Voluptas*, that is to say, not in the sense of 'regressing' to the wall (any wall - metonym for architecture) as a territorial sign (coding), and not by overcoding. Enter celibate machine. While conscious investment generates subjugated groups who privilege power over desiring-production in their attempt to change the socius, unconscious or libidinal investment generates subject groups whose programless politics subordinates the socius to pure desire with no interest, cause or teleology. At their most experimental, art and architecture have the capacity to escape their historical moment. This is the *sine qua non* of the project of defatalisation. Upon receiving the Pritzker Prize in 2000, Koolhaas (Rem) was interviewed by one of the editors of *S, M, L, XL*, Jennifer Siegler (Jen).¹⁵⁵ In some of his answers we find an almost uncanny resonance with the - production of production, recording and consummation - thesis that we put forward:

Jen: That must be why you make people nervous. You take in everything. People feel that.

did at that time), I decided to simply look at the Berlin Wall as Architecture, to document and interpret it, to see what the real power of architecture was."

¹⁵⁴ See: Kari Jormakka, *Flying Dutchmen: Motion in Architecture* (Basel: Birkhäuser, 2002), pp. 49-50.

¹⁵⁵ The Pritzker Prize is an architectural near-equivalent of the Nobel Prize. The list of laureates includes: Philip Johnson (1979), Luis Barragán (1980), James Stirling (1981), Kevin Roche (1982), I.M. Pei (1983), Richard Meier (1984), Hans Hollein (1985), Gottfried Böhm (1986), Kenzo Tange (1987), Oscar Niemeyer (1988), Gordon Bunshaft (1988), Frank Gehry (1989), Aldo Rossi (1990), Robert Venturi (1991), Alvaro Siza (1992), Fumihiko Maki (1993), Christian de Portzamparc (1994), Tadao Ando (1995), Rafael Moneo (1996), Sverre Fehn (1997), Renzo Piano (1998), Norman Foster (1999), Rem Koolhaas (2000), Jacques Herzog and Pierre de Meuron (2001), Glen Murcutt (2002), Jørn Utzon (2003), Zaha Hadid (2004), Thom Mayne (2005), Paulo Mendes da Rocha (2006), Richard Rogers (2007), Jean Nouvel (2008), Peter Zumthor (2009), Kazuyo Sejima and Ryue Nishizawa (2010), Eduardo Souto de Moura (2011), <http://www.pritzkerprize.com> (accessed May 25, 2011).

Rem: I can't ever be oblivious. I wrote a sentence today: 'The tyranny of the oblivious ...' My whole life has been about envying the tyranny of the oblivious. And feeling the vulnerability of the ... recorder.

Jen: Of the what?

Rem: Of those who record.

Jen: You call yourself a recorder.

Rem: The thing is that I have a really intense, almost compulsive need to record. But it doesn't end there, because what I record is somehow transformed into a creative thing. There is a continuity. Recording is the beginning of a conceptual production. *I am somehow collapsing the two — recording and producing — into a single event.*¹⁵⁶ [emphasis added]

110 **A People is Missing** It goes without saying that our triads appear too neat.¹⁵⁷

However, it bears repeating that they are never exclusive. Each of the respective conceptual personae/aesthetic figures discussed above is a product of a specific machinism and the (desiring) machines are part of the same continuum. This means that the three syntheses are irreducible. It is also impossible to circumvent any of them. Yet, according to our (schizo)analysis, a difference of emphasis appears nevertheless.¹⁵⁸ We will refer to it as style. This style is not an effect, but a quasi-cause. Both Claus and Kaan and MVRDV of the first triad have an exquisite style. By contrast, we would argue that UNS, NOX and OMA have no style. Rather, thanks to the abstract machine or the Northern Line, it is style that has them. Let us reiterate that the 'schizophrenia' Deleuze and Guattari embrace is not a pathological condition. For them, as Massumi explains, "the clinical schizophrenic's debilitating detachment from the world is a quelled attempt to engage it in unimagined ways. Schizophrenia as a positive process is inventive connection, expansion rather than withdrawal."¹⁵⁹ What sets the last triad apart as that of potential proponents of 'immanent architecture' is the ambition not to fulfil the desire of a ready-made audience but to produce its own audience and quite

¹⁵⁶ Rem Koolhaas, "Interview by Jennifer Sigler" in *Index Magazine* (2000), http://www.indexmagazine.com/interviews/rem_koolhaas.shtml (accessed May 25, 2011).

¹⁵⁷ Peirce coined the term 'triadomania' for such an over-reliance on trichotomies. See: Charles S. Peirce, *Collected Papers of Charles Sanders Peirce: the electronic edition 1994*, reproducing Vols. I-VI ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard UP, 1931-1935), Peirce: CP 1.569 Cross-Ref: ††.

¹⁵⁸ It may be said that what distinguishes these approaches - connective, disjunctive and conjunctive - is at once their strength and weakness in respect of each other. That is to say that they become more susceptible to potential co-option by the dominant regime and fetishisation: the first via the physical, the second via the semiotic and the third via the psychic.

¹⁵⁹ Brian Massumi, *A User's Guide to 'Capitalism and Schizophrenia': Deviations from Deleuze and Guattari* (Cambridge, Mass: MIT, 1993), p. 1. "Not aimlessly. Experimentally."

literally so. Hence our emphasis on passive syntheses with the clear architectural agenda of forcing the shift from the design of form to the design of experience (Design is *Dasein*).¹⁶⁰ We proceed from the premise that the individual is not form but power.¹⁶¹ What we refer to as the 'mapping of agency', which is complementary but antecedent to the well-known 'agency of mapping', is best explained by Deleuze *qua* Klee:

[T]he artist opens up to the Cosmos in order to harness forces in a 'work' (without which the opening onto the Cosmos would only be a reverie incapable of enlarging the limits of the earth); this work requires very simple, pure, almost childish means, but also the forces of a *people*, which is what is still lacking.¹⁶²

Consider the juxtaposition with Robert Somol's 'active', that is, representational (social constructivist) historical triad, where he starts by questioning the stability of form. [Table lviii] By contrast to our 'passive' triad, this fourth *logocentric* triad found that form was not 'neutral', but constructed by linguistic and institutional relations. According to Somol, the agenda was first broached in Robert Venturi's deployment of *collage* as a deviation of form to information or sign, which was not merely compositional but would include both text and 'low-brow' references. By contrast, Peter Eisenman's deviation would move to the trace, the missing index of formal processes, thus stressing the absence and the conceptual. Finally, John Hejduk would investigate the theatrical construction of form through highly orchestrated relations and instructions, both linguistic and contractual. Thus, Somol's "three-pronged critique" variously foregrounds *context* with Venturi (framing mechanisms outside form); *process* with Eisenman

¹⁶⁰ "Instead of looking for the clear outline that defines a form, one gives priority to the line that connects and relates: organs, subjects and objects; societies and technologies; the organic and inorganic; cities, architectures and users. It remains concrete and empirical – it is not merely a matter of interpretation [...] but very much an architectural project, a project of creation that entails the restructuring of experience and drives one on *to think afresh the material of architecture*. It is the flows that make things work, the connections across boundaries into the world beyond the building over which we might aspire to have immediate control [...]." [emphasis added] Christopher Smith and Andrew Ballantyne, "Flow: Architecture, Object and Relation" in *Architectural Research Quarterly* (Vol. 14, No. 1, 2010), p. 26.

¹⁶¹ The logic of relations is founded on this premise - the individual as power [puissance] - as well as on the independence of relation in relation to its terms. See: Gilles Deleuze, *Cours Vincennes*: "Spinoza" (February 17, 1981), <http://www.webdeleuze.com/php/texte.php?cle=38&groupe=Spinoza&langue=2> (accessed May 25, 2011).

¹⁶² See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 337.

(active procedures within formation); and *usage* with Hejduk (form's relation to a subject).

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(iii)	paranoiac/ <i>libido</i> UNS partial objects (p.o.) percept/hallucination	miraculating/ <i>numen</i> NOX resonance b/w p.o. thought/delirium	celibate/ <i>voluptas</i> OMA pure intensities experience/intensity
Somol (iv)	<i>informing</i> Venturi context/icon	<i>transforming</i> Eisenman process/index	<i>performing</i> Hejduk usage/symbol
Hays (v)	imaginary (I) Rossi analogy arch. big Other	symbolic (S) Eisenman repetition signif. impossibility of signif.	real (R) Hejduk (IR) / Tschumi (SR) encounter / spacing (<i>différance</i>) absence / code
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Triads: Third (and Somol's Fourth (iv) and Hays' Fifth (v)): *The self-identical subject dissolves, first, in the contraction of habit, and second, in the memory of the pure past. Finally, in the third synthesis, time is witnessed as pure form without content, demented, 'out of joint'. In contrast to the model of recognition adhered to by orthodox philosophy and its dogmatic image of thought, it is here that the passive individual encounters the event. Captured only on the basis of the involuntary thought, the encounter emits signs and intensities that are (empirically) imperceptible, sub-representational and affective.*

For Somol, with the neo-avant-garde, "form would be precisely subjected to the functions of its linguistic descendants: *informing*, *transforming*, and *performing*."¹⁶³ But as Somol himself professes and yet fails to live up to, working diagrammatically is not to be confused with simply working with diagrams. That is to say, the (non-formal/subrepresentational) mapping of agency is not to be conflated with the agency of mapping (in/trans/per-forming). Abstract machines do operate within concrete assemblages, but they make the territorial assemblage open onto assemblages of another type (molecular, cosmic) which constitute becomings. In the words of Bryant:

Through a knowledge of regimes of attraction, the attractors that organize them, and the bifurcation points to which they are susceptible, it becomes possible to strategize practices that might intensify and accelerate these processes. The presence of a bifurcation point is no guarantee that a system will shift into a new

¹⁶³ Robert Somol, "Dummy Text, or The Diagrammatic Basis of Contemporary Architecture" in *Diagram Diaries*, (New York, Universe Publishing, 1999), pp. 6-25.

basin of attraction. Consequently, cartography, a cartography of the virtual, becomes an indispensable dimension of practice, providing us with resources for determining how to activate these bifurcation points.¹⁶⁴

By contrast, "[Molar] Identity is like a mousetrap in which more and more mice have to share the original bait, and which, on closer inspection, may have been empty for centuries."¹⁶⁵ In other words, what makes abstract machines abstract is that they know nothing of forms and substances. Form is never *subjected* to anything.¹⁶⁶ Nor is it *representation* of the real as in Michael Hays' Lacanian systematisation (fifth triad: imaginary - symbolic - real).¹⁶⁷ For schizoanalysis, as opposed to psychoanalysis, the Real = Desiring-production.¹⁶⁸ "[T]he machines of desire [...] no longer allow themselves to be reduced to the structure any more than to persons [...] constitute the Real in itself, beyond or beneath the Symbolic as well as the Imaginary."¹⁶⁹ Every abstract machine is nothing but a consolidated aggregate of (un-formed) matters and (non-formal) functions, that is, *phylum* and *diagram*. It is singular, and creative, real yet non-concrete, actual yet non-effectuated. That is precisely why abstract machines can be dated and named: UNS paranoiac machine, NOX miraculating machine and OMA celibate

¹⁶⁴ See: Levi R. Bryant, *The Democracy of Objects* (Open Humanities Press, 2011) <http://openhumanitiespress.org/democracy-of-objects.html> (accessed October 5, 2011).

¹⁶⁵ Rem Koolhaas, "Generic City" in *S,M,L,XL*, ed. OMA with Bruce Mau (New York: The Monicelli Press), p. 1248. "Paris can only become more Parisian - it is already on its way to becoming hyper-Paris, a polished caricature. There are exceptions: London - its only identity a lack of clear identity - is perpetually becoming even less London, more open, less static."

¹⁶⁶ "Abstract machines are always at work upon stratified territories, constantly 'setting things loose', but at the same time, that which is deterritorialised, the 'new' which is invented from the diagram, is constantly being put back to work, productively employed and 'enveloped' again by the strata that surround it. Hence *there is in fact, contra Somol and Whiting, no absolute opposition between the indexical/territorial and the diagrammatic/abstract [...]*" [emphasis added] See: Douglas Spencer, "The Critical Matter of the Diagram" in *Relational Skins*, ed. Holger Kehne and Jeff Turko Spencer (Lulu, 2009).

¹⁶⁷ This is a fundamental thesis of Hays' latest work within the framework of Lacanian theory (the fifth triad). Despite their apparent opposition, 'projective' Somol and 'critical' Hays share a *correlationist* 'overmining' stance (philosophy of access and access to access). See: Michael K. Hays, *Architecture's Desire: Reading the Late Avant-garde* (Cambridge, MA: MIT, 2010).

¹⁶⁸ Desiring = Production. While psychoanalysis settles on the imaginary and structural *representatives* of re-territorialisation, schizoanalysis follows the machinic *indices* of de-territorialisation. See: Daniel W. Smith, "The Inverse Side of the Structure: Žižek on Deleuze on Lacan" in *Criticism* (No. 46.4, 2004), pp 635-650.

¹⁶⁹ See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), pp. 52-53. The unconscious "is neither Imaginary nor Symbolic, it is the Real in itself, the 'impossible real' and its production."

machine. Not that they refer to architects or to architecture (effectuating moments). On the contrary, it is the names and dates that refer to the singularities of the machines, and to what they effectuate. *Something finite consists of an infinity under a certain relation.*¹⁷⁰

5.3 Mapping of Agency (BwO)

- 111 **There is Only Hardware** Paradoxical as it may seem, the age of the computer and the euphoria for virtual reality may already be over. At any rate, according to Sanford Kwinter, architecture may well have already over-invested in it: "[T]hose who consider the computer a tool appear to have no inkling of what an enchanted concoction a computer could represent: they obediently and conventionally conceive of it as 'digital' when in fact it is quite demonstrably an analog organization (made of glass, silicon, and electricity). [...] *the 'physical' or 'tangible' dimensions of computing [...] may well turn out to be the holy grail of design.* In fact, there appears to be nothing in the software universe today that is not derived from the analysis of real-world material processes."¹⁷¹ [emphasis added]

The recently deceased media theorist Friedrich A. Kittler was even more radical in claiming that *there was no software* to begin with. That is to say that software is merely an effect of the existing hardware as material substrate. The architecture of a silicon chip is quite telling in this respect. According to Kittler, the famous Moore law is about to be breached given the limits of the paradoxical relation between two of its physical conditions, namely, thermal continuity and electrical discretisation (connection and disjunction).¹⁷² To put it simply, the miniaturisation of the chip can continue as long as both containment and leakage are guaranteed, or more simply still, as far as the physical substrate will allow. Whether the ultimate threshold will be reached by 2015, 2020, or later, is of

¹⁷⁰ "How is the individual a relation? You will find, at the level of the individual, a limit. This does not prevent there having been some infinite, this does not prevent there being relations and these relations being composed, the relations of one individual are composed with another; and there is always a limit that marks the finitude of the individual, and there is always an infinite of a certain order that is involved by the relation." See: Gilles Deleuze, *Cours Vincennes: "Spinoza"* (February 17, 1981), <http://www.webdeleuze.com/php/texte.php?cle=38&groupe=Spinoza&langue=2> (accessed May 25, 2011).

¹⁷¹ Sanford Kwinter, "Four Arguments for the Elimination of Architecture; (Long Live Architecture)" in *Requiem; For the City at the End of the Millennium* (Barcelona: Actar, 2010), pp. 91-92.

¹⁷² *Moore's law* describes a long-term trend in the history of computing hardware, according to which the processing power doubles every eighteen months. This trend has been present for more than half a century.

lesser importance. The architectural lesson we draw from this *enabling constraint* is that the absolute priority should be given to investing not in the virtual (and augmented) reality, but in the real virtuality. In the words of Kittler:

Precisely this maximal connectivity defines nonprogrammable systems, on the physical side, be they waves or beings. That is why these systems show polynomial growth rates in complexity and, consequently, why only computations done on nonprogrammable machines could keep up with them. In all evidence, this hypothetical but all too necessary type of machine would constitute sheer hardware, a physical device working amidst physical devices and subjected to the same bounded resources. Software in the usual sense of an ever-feasible abstraction would not exist any more. The procedures of these machines, though still open to an algorithmic notation, would have to work essentially on a material substrate whose very connectivity would allow for cellular reconfigurations.¹⁷³

Although Kittler's concern might be narrow (in disciplinary terms), it is our contention that the discipline of architecture should be mindful of its far-reaching implications: *Anything does not go!* This means that architecture must refrain from self-indulgent flirtation with 'unrestricted' (digital) possibilities and instead tap into the *machinic phylum* (of genuine latent potentialities). Kittler unwittingly offers a timely advice: "[...] instead of pursuing the [computational] hypothesis, that is of 'injecting an algorithmic behavior into the behavior of the physical world for which there is no evidence,' one has rather to compute what has been called 'the prize of programmability' itself. This all-important property of being programmable has, in all evidence, nothing to do with software; it is an exclusive feature of hardware [...]." One cannot but be struck by the irony of what is effectively a genuine plea for re-enchantment with the concrete coming from one of the pioneers of the abstract (digital). The virtual as a concrete abstraction is the space of experience (*spatium*) which escapes not only formalisation but also psychologising. If formalisation is the symptom of (over)determinist fixation on the part of modernist architects, psychologising is but another postmodern

¹⁷³ "Confronted as they are with a continuous environment of weather, waves, and wars, digital computers can cope with this real number-avalanche only by adding element to element. However, the growth rate of possible interconnections between those elements and, that is, of computing power as such, is proven to have a square root function as its upper bound. In other words, it cannot even keep up with polynomial growth rates in problem size." See: Friedrich A. Kittler, "There is no Software" in *CTheory*, ed. Arthur and Marilouise Kroker (1995), <http://www.ctheory.net/articles.aspx?id=74> (accessed May 25, 2011).

malaise.¹⁷⁴ This makes the role of the psychologist Gibson even more peculiar given that his concept of affordance is not psychological but genuinely virtual in the strict sense of the word: real-yet-not-actual. For what is affordance if not a Body without Organs, that is, a relation anterior to its organs/terms (subject and object). And what is architecture if not a BwO antecedent to its buildings and modes of existence. To be sure, this definition is anexact but it is nevertheless rigorous. It could not be otherwise, given our commitment - not to the relativity of truth - but to the truth of relativity. Relationality becomes an exclusive locus of agency as there is no sense in general. Assemblage = Agency.¹⁷⁵

Notwithstanding the ability of digital technology to manage massive quantities of information, the concept of 'emergent architecture' is not only highly unlikely - as it would require highly specific initial conditions - but also quite doubtful as a concept from the perspective opposed to totalising technical solutions.¹⁷⁶ In the words of Deleuze from *Difference and Repetition* (1968):

¹⁷⁴ A dispute over the 'appropriate shape of a corridor' between Le Corbusier and Häring is illustrative of the form/function relationship. For Häring the width of the corridor needs to vary according to its capacity: as more traffic is to be expected at its near-end, it consequently needs to be wider than the far-end. This is but a fragment of a fundamental debate within the Modern Movement, which reached its peak at the first CIAM meeting in La Sarraz in 1928, as to whether standardization should lead to a simplification of forms. Le Corbusier proposed to use geometry to make standardised products more universally applicable, thereby increasing the economic viability of the idea. Häring accused him of formalising the Modern Movement, and supported an individual and specific approach in response to each particular demand that would lead to more organic forms. See: Wessel de Jonge, "The Technology of Change: The Van Nelle Factories in Transition" in *Back from Utopia*, ed. H.A.J. Henket and H. Heijnen (Rotterdam: 010 Publishers, 2002), p. 50.

¹⁷⁵ The term 'assemblage' in its French version - *agencement* - implies agency. See: Charles S. Peirce, *Collected Papers of Charles Sanders Peirce: the electronic edition 1994*, reproducing Vols. I-VI ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard UP, 1931-1935), Peirce: CP 1.443 Cross-Ref: ††. "A married couple is not a man. Neither is it a woman, and **a fortiori** it is not, at once, a man and a woman. Nor is it disjunctively either a man or a woman. It is a third object, to whose constitution, which is its nature, and therefore to its existence, too, a man is requisite and a woman is requisite. A pair is an object to whose constitution a subject and another subject are necessary and sufficient." [emphasis in the original]

¹⁷⁶ "Hence, to imagine an architecture that is adaptive and responsive is not to propose a vague 'emergent' architecture or to appeal to old models of flexibility. Rather, it implies an architecture that is precise in its formal propositions - specific in shape, material and disposition - yet strategically available for multiple and unpredictable appropriations over time by canny users who understand that program is never definitive. [...] Operating more like a fitness landscape, successful buildings and cities offer degrees of appropriateness and levels of fit; an architecture open to the contingencies of contemporary life and capable of sponsoring a variety of activities over time. To design for this uncertainty requires an intelligent deployment of technology, but it also implies a skepticism about

It is therefore true that God makes the world by calculating, but his calculations never work exactly [*juste*], and this inexactitude or injustice in the result, this irreducible inequality, forms the condition of the world. The world 'happens' while God calculates; if the calculations were exact, there would be no world.¹⁷⁷

5.3.1 Conclusion: Double Bind

112 **Hyphen Between Matter and Mind** Our concern has been with the way in which the Digital Turn in architecture effectively reproduces the Cartesian duality of mind and body, removing the former from contexts of human engagement with the environment while treating the latter as no more than a kind of recording mechanism, converting the stimuli that impinge upon it into data to be processed.¹⁷⁸ It is for this reason that we revamp the legacy of (radical/transcendental) empiricism in general and that of J.J. Gibson in particular. Gibson vehemently rejected the reductionist information-processing view, with its implied separation of the activity of the mind in the body from the reactivity of the body in the world, arguing instead that perception is part and parcel of the total *system* of relations constituted by the ecology of the life form.¹⁷⁹ Let us make it, after Guattari, ecologies in the plural: environmental, social and psychical. Perceivers get to know the world *directly*, by moving about and discovering what the environment affords, rather than by representing it in the mind. Hence, meaning is not the form that the mind contributes to the flux of raw sensory data by way of its acquired schemata. Rather it is continually becoming within relational contexts of engagement. The cognition is Extended and not interiorised or centralised, Embedded and not generalised or decontextualised, Enacted and not passive or merely receptive, Embodied and not logocentric, Affective and not unprovoked, because *everything starts from the sensible*.

singular, totalizing, technological solutions." See: Stan Allen, "The Digital Complex" in *LOG* (No. 5, Spring/Summer 2005), pp. 98-99.

¹⁷⁷ See: Gilles Deleuze, *Difference and Repetition* (New York: Columbia UP, [1968] 1994), p. 202.

¹⁷⁸ With the barren effect of replacing the Cartesian view of action as the bodily execution of innate or acquired programs with the kindred albeit more contemporary cognitivist view of perception as the operation of the mind upon the deliverance of the senses.

¹⁷⁹ [T]he question is why those who are so keen to attribute absolute or unconditional reality to the activities of self-consciousness (or of minded creatures) seem so loath to confer equal existential rights upon the unconscious, mindless processes through which consciousness and mindedness first emerged and will eventually be destroyed. [...] [T]he structure of reality includes but is not exhausted by the structure of discretely individuated objects." See: Ray Brassier, "Concepts, Objects, Gems" in *Theory after 'Theory'*, ed. D. Attridge and J. Elliot (New York: Routledge, 2011), pp. 290, 291.

Architects should pay close attention to the implications of the 4EA which the social anthropologist Tim Ingold sums up in the following way:

It follows from this approach that if people raised in different environments perceive different things, this is not because they are processing the same sensory data in terms of alternative representational schemata, but because they have been trained, through previous experience of carrying out various kinds of practical tasks, involving particular bodily movements and sensibilities, to orient themselves to the environment and to attend to its features in different ways. Modes of perception, in short, are a function of specific ways of moving around [...] these forms of motility are not added to, or inscribed in, a preformed human body, but are rather intrinsic properties of the human organism itself, developmentally incorporated into its *modus operandi* through practice and training in a particular environment. Hence capacities of perception, as of action, are neither innate nor acquired but undergo continuous formation within processes of ontogenetic development.¹⁸⁰

The actual content of architecture is thus movement and not message. It is movement that is not just space-making but quite literally ontogenetic. This is why, according to Gibson, learning is but the education of attention.¹⁸¹ Gibson's conclusion has implications for teaching as well as for research.

113 **Nomadic Ethics** The Ethical - Affective - Speculative – Pragmatic - Epigenetic and Topological approach renders some traditional issues obsolete but introduces a set of new problems, most notably those concerning the 'source of normativity'.¹⁸² The question is whether there can be a material ethics? When confronted with the issue, Deleuze gave an infamous tongue-in-cheek proposal that morality needed to be replaced with physics. What he meant, of course, is

¹⁸⁰ See: Tim Ingold, "From Complementarity to Obviation: On Dissolving the Boundaries between Social and Biological Anthropology, Archaeology and Psychology" in *Cycles of Contingency: Developmental Systems and Evolution*, ed. S. Oyama, P. E. Griffiths and R. D. Gray (Cambridge, Mass.: The MIT Press), pp. 267-268. "In this approach, which takes as its starting point the notion of the organism-person as a locus of growth within a field of relationships, human capacities are explained as the properties not of genetic or cultural programming but of the self-organising dynamics of developmental systems. It is possible, then, to dispense not only with the biological/social dichotomy but also with that between evolution and history."

¹⁸¹ See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 270.

¹⁸² Ontological event is to supersede epistemological law. See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York, NY: Penguin, [1972] 2008), p. 36. "[U]nlike previous social machines, the capitalist machine is incapable of providing a code that will apply to the whole of the social field."

that the source of any critique must not come from the outside. It needs to operate at the level of production of the very concept (or affect), at its own terms.¹⁸³ The descent below the threshold of consciousness is beautifully illustrated by Whitehead who said: "Biology is the study of large organisms, physics is the study of smaller ones."¹⁸⁴ Truth and Falsity are not values that exist outside the constitutive problematic fields which give them sense. Ethics, framed in this way, is a problem of power and not of duty. Rather than relying upon (striated) *logos*, the emphasis shifts to the 'natural law' of (smooth) *nomos*.¹⁸⁵ In the undivided shared space of cosmos everything becomes a matter of dosage. Manuel DeLanda explains the main tenets of Spinozian ethics as follows:

[I]n an ethics of nourishing versus degrading assemblages, real-life experimentation (not *a priori* theorization) is the key. To use an obvious example from environmental ethics: a little phosphorous feeds the soil; too much poisons it. Where exactly the threshold is varies with type of soil so it cannot be known *a priori*. But the normative statement "do not poison the soil" is there nevertheless. Similarly for society: too much centralization poisons (by concentrating power and privilege; by allowing corruption; by taking away skills from routinized command-followers etc) but exactly how much is to be decided by social experiments, how else?¹⁸⁶

A double bind is a theory proposed by Gregory Bateson to account for a particular condition of an *aporia*, dilemma or impasse, which results from a kind of split loyalty. It creates a situation in which a successful response to one concern results in a failed response to the other: "a situation in which no matter

¹⁸³ "Thus the question is not how architectural criticism can serve architecture, but of how architecture can be a medium for critical activity." See: Ole Bouman and Roemer van Toorn, "Architecture at Remdom; The Blinkers that Make the Visionary" in *The Invisible in Architecture* (London: Academy Editions, 1994), p. 15.

¹⁸⁴ Alfred North Whitehead, *Science and the Modern World* (Cambridge: Cambridge UP, 1929), p. 125.

¹⁸⁵ See: John Sellars, "Nomadic Wisdom: Herodotus and the Scythians" in *Nomadic Trajectories*, ed. John Sellars and Dawn Walker in *Pli* (Vol. 7, 1998), p. 71. "[...] Deleuze and Guattari use the term in its earliest form; *nomos* as pasture or steppe. [...] The distinction that Deleuze and Guattari want to use is that between the carefully controlled city and the unregulated expanse of the steppe. For them, *nomos* 'stands in opposition to the law or the *polis*, as the backcountry, a mountainside, or the vague expanse around a city'."

¹⁸⁶ DeLanda discusses a version of Spinozian ethics where the moral dichotomy of 'good' and 'evil' are replaced by the pair 'food' and 'poison' which do not form a dichotomy. See: Interview with Manuel DeLanda "1000 Years of War" in *CTheory*, ed. Arthur and Marilouise Kroker (2003), <http://www.ctheory.net/articles.aspx?id=383> (accessed May 25, 2011).

what a person does, he can't win."¹⁸⁷ Bateson gives an example of a father who expects his child to treat him as an equal while at the same time commanding respect from the child. We raise it to address a particular concern about the alleged tendency of some proponents of the Affective Turn to undermine intelligence in favour of instinct, the difference being that instinct presupposes instantaneous payoff (sustainability), while intelligence is about a deferred higher efficiency (sustainability of sustainability). A possible consequence of pursuing an instinct-driven narrow interest may have an unintended effect in the long run. With its impulsive 'will to survive' (*élan vital*), humanism might indeed turn out to be suicidal, as Claire Colebrook cautions. To prevent this scenario she proposes to counter the old (Luddite) Active Vitalism with the so-called Passive Vitalism, where the emphasis needs to be on life as a dynamic creativity (assemblage) rather than on the environment (territory).¹⁸⁸ After all, "there is no such thing as an 'environment as such'," let alone *the* environment.¹⁸⁹ The evolutionary biologist Richard Lewontin explains:

This view of environment as causally prior to, and ontologically independent of, organisms is the surfacing in evolutionary theory of the underlying Cartesian

¹⁸⁷ Gregory Bateson, *Steps to an Ecology of Mind: Collected essays in anthropology, psychiatry, evolution and epistemology* (London: Jason Aronson, 1972), pp. 199-204.

¹⁸⁸ See: Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010), p.137. "Vitalism in its contemporary mode therefore works in two opposite directions. The tradition that Deleuze and Guattari invoke is opposed to the organism as subject or substance that would govern differential relations; their concept of 'life' refers not to an ultimate principle of survival, self-maintenance and continuity but to a disrupting and destructive range of forces. The other tradition of vitalism posits 'life' as a mystical and unifying principle. It is this second vitalism of meaning and the organism that, despite first appearances, dominates today. The turn to naturalism in philosophy, to bodies and affect in theory, to the embodied, emotional and extended mind in neuroscience: all of these maneuvers begin the study of forces from the body and its world, and all understand 'life' in a traditionally vitalist sense as oriented towards survival, self-maintenance, equilibrium, homeostasis and autopoiesis." The Luddites were a social movement of British textile artisans in the nineteenth century who protested - often by destroying mechanised looms - against the changes produced by the Industrial Revolution, which they felt were leaving them without work and changing their way of life. It took its name from Ned Ludd.

¹⁸⁹ See: Levi R. Bryant, *The Democracy of Objects* (Open Humanities Press, 2011) <http://openhumanitiespress.org/democracy-of-objects.html> (accessed October 5, 2011). "[E]nvironments cannot be treated as something that is simply given or there such that the organism subsequently fills a niche that already existed in the environment. Rather, organisms take an active role in constructing their environment, both through determining relevancies in the environment and through actively changing their environment through activities like building nests." See also: Scott J. Turner, "Extended Phenotypes and Extended Organisms" in *Biology and Philosophy* (No. 19, 2004), pp. 327-352. According to Turner, 'ecological niches' are an outward extension of the physiology of an organism.

structure of our world view. The world is divided into causes and effects, the external and internal, environments and the organisms they 'contain'. While this structure is fine for clocks, since main-springs move the hands and not vice versa, it creates indissoluble contradictions when taken as the meta-model of the living world.¹⁹⁰

114 **Passive Vitalism** It should be easy enough for architects to empathise with the above 'deferred payoff reasoning' since their job is not merely allographic. It is also 'strategic', if not 'logistical', as in the case of urbanism and physical planning.¹⁹¹ There is hardly anything immediate or instantaneous in architectural design. Architects don't (even) make buildings, they make drawings and models of buildings.¹⁹² But the analogy with (most of) artistic practice is simply far-fetched. Richard Sennett rightly dismisses the cult of the artefact as implausible: "Architecture forms a special case in relation to the ideal of integrity, for it comes into being in ways paintings, sculptures, and poems do not. The making of a piece of urban architecture is a messy process, involving an army of specialist designers and technicians at war with opposing armies of government officials, bankers and clients."¹⁹³ (Architectural) design is action at a distance in a profound sense.¹⁹⁴ If 'assemblage' has been the core concept of Deleuze and Guattari ever since *A Thousand Plateaus* (1980) then what they call a 'territory' is simply its limit condition (striation).¹⁹⁵ Any subsequent de-territorialisations and re-territorialisations are to be considered as mere dimensions of the very assemblage, which is beyond the control of the designer. Given the asymmetry between the territory and the assemblage, it should not come as a surprise that: "What holds an assemblage together [what gives it integrity] is not the play of

¹⁹⁰ Richard Lewontin, "Organism and Environment" in *Learning, development, and culture*, ed. H.C. Plotkin (Chichester: Wiley, 1982), p. 159.

¹⁹¹ In contrast to *autographic* arts such as sculpturing, *allographic* arts are those capable of being reproduced at a distance from the author.

¹⁹² Stan Allen, *Practice: Architecture, Technique & Representation* (Amsterdam: Gordon & Breach, 2000), p. 1.

¹⁹³ Richard Sennett, "The Technology of Unity" in *Olafur Eliasson: Surroundings Surrounded: Essays on Space and Science*, ed. Peter Weibel (Karlsruhe: ZKM, 2000), p. 563.

¹⁹⁴ See: Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT, 1995), p. 363.

¹⁹⁵ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 337. "Just as milieus swing between a stratum state and a movement of destratification, assemblages swing between a territorial closure that tends to re-stratify them and a deterritorializing movement that connects them to the Cosmos. Thus it is not surprising that the distinction we were seeking is not between assemblage and something else, but between two limits of any possible assemblage, in other words, between the system of strata and the plane of consistency."

framing forms or linear causalities but, actually or potentially, its most deterritorialized component."¹⁹⁶ Guattari explains:

Repetition is not the law, the finality of something; on the contrary, it marks the threshold to 'deterritorialization', the indication of a desiring mutation.¹⁹⁷

"What holds the holdings together," according to Massumi "is a oneness-in-manyness of a moving on."¹⁹⁸ Deleuze and Guattari's favourite example of the 'cutting edge of deterritorialisation' is the 'refrain' (*ritornello*).¹⁹⁹ Again, there is no homology between the plane of consistency (machinic phylum) and the system of strata. There is only *transduction* or the cascading from the intensive to the extensive: the virtual *chaos* as the milieu of all milieus > *milieu* as the universal singular > the differential of *rhythm* > territory as the individual singular. Deleuze and Guattari insist that it is the difference that is rhythmic, not the repetition.²⁰⁰ "Rhythm is milieu's answer to chaos."²⁰¹ To meet the challenge of the double bind, there needs to occur a fundamental change in the architect's

¹⁹⁶ Deleuze and Guattari's 'Refrain' is Nietzsche's 'Eternal Return'. It does not allow for the return of identity, since this would ultimately come down to a final stasis, but must instead stand for the eternal return of differentiation. See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 374. See also: James Williams, "Deleuze's Ontology of Creativity: becoming in Architecture" in *Pli* (no. 9, 2000), pp. 211-212.

¹⁹⁷ See: Félix Guattari, "The Best Capitalist Drug" in *Chaosophy*, ed. Sylvère Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 150, 152. "Schizoanalysis [...] meets with the revolutionary struggle to the extent that it strives to free the flows, to remove the bolts - the axiomatics of capitalism, the overcoding of the superego, the primitive territorialities artificially reconstructed, etc. The work of the analyst, the revolutionary, and the artist meet to the extent that they must constantly tear down systems which reify desire, which submit the subject to the familial and social hierarchy (I am a man, I am a woman, I am a son, I am a brother, etc.). No sooner does someone say, 'I am this or that' than desire is strangled."

¹⁹⁸ See: Brian Massumi, "The Ether and Your Anger: Toward a Speculative Pragmatism" in *Semblance and Event: Activist Philosophy and the Occurrent Arts* (Cambridge, MA: MIT Press, 2011), p. 35. "It is what runs through the parts and their holdings, without itself being held; what is unmissably experienced without being seen. *That* - the relation - is not in the giver. Nor is it in the gift. Nor the recipient. It is what runs through them all, holding them together in the same dynamic."

¹⁹⁹ "In general sense, we call a refrain any aggregate of matters of expression that draws a territory and develops into territorial motifs and landscapes." See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 356.

²⁰⁰ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 346.

²⁰¹ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 313. "Chaos is not the opposite of rhythm, but the milieu of all milieus."

role from a synaptic visionary - a psychological subject whose private meanings and public expressions are crucial to understanding his work and its effects - to a more humble explorer of the *machinic phylum*.²⁰² A determinant interconnection between obeying and commanding requires not surrendering to the matter but meeting it 'halfway'.²⁰³ Many a Deleuzian epigone will frown at such a proposal of semi-automatic mode of operation, as if immanence were only guaranteed by taking the architect out of the loop, together with the right angles and the rest of the 'superseded' toolkit.²⁰⁴ What they forget is that the architect is also an effect (quasi-caused by the conceptual persona or aesthetic figure).²⁰⁵ The 'audience' does not come ready made either. We are in need of a people, Deleuze and Guattari say, a people yet to come.²⁰⁶

²⁰² A paradigmatic example of a synaptic visionary is Rand's architect Howard Roark. See: Ayn Rand, *The Fountainhead* (New York: Signet, [1943] 1993). By contrast, the true strength of a more speculative play-with-virtualities-without-actualising-them approach can best be illustrated with an example of the Periodic Table. DeLanda explains, "What constitutes Mendeleev's great achievement is that he was the first one to have the courage to leave *open gaps* in the classification instead of trying to impose an artificial completeness on it." See: Manuel DeLanda, "Deleuzian Ontology: A Sketch" in *New Ontologies: Transdisciplinary Objects* (March 3, 2003). Tafuri similarly identifies the great historical merit of American urban planning since the mid-eighteenth century: "In the United States, absolute freedom is granted to the single architectural fragment, which is situated in a context that is not formally conditioned by it. [...] Here urban planning [One] and architecture [Many] are finally separated from each other." See: Manfredo Tafuri, "Toward a Critique of Architectural Ideology" in *Architecture Theory Since 1968*, ed. Michael K. Hays (Cambridge, MA: MIT Press, 1998), p. 13.

²⁰³ See: Isabelle Stengers, "The Symbiosis Between Experiment and Techniques" in *The Politics of the Impure*, ed. Joke Brouwer, Arjen Mulder and Lars Spuybroek (Rotterdam: V2_Publishing, 2010), pp. 14-45.

²⁰⁴ Very often one hears arguments such as, "Well, this is really how it had to be, because there were these forces [...]." In Somol's view, this is just not convincing enough. The process is just a device. It becomes a technique to generate other effects which are not reducible or explainable by the context of function arguments. "In both the American and Dutch cases, there can be said to be a surprising necessity for a process of automatism - 'Look, ma', no hands!' - I didn't do it, the statistics made me do it, or sun made me do it, or something else made me do it. But in the end, what effect are you looking for?" [emphasis added] See: Schmid and Vrhunc, "Interview: Robert E. Somol", *Oris* (Vol. V, No 2, 2003)

²⁰⁵ Conceptual personae are the powers of concepts and aesthetic figures are the powers of affects and percepts. See: Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (New York: Columbia UP, [1991] 1994), pp. 63, 160. "Philosophy's sole aim is to become worthy of the event, and it is precisely the conceptual person who counter-effectuates the event."

²⁰⁶ Not to address the one who is missing, but the one who will arrive. See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 345.

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ACTIVE	In the beginning we created the world, we subjected ourselves to systems and now we have to <i>reclaim</i> the world we created.
PASSIVE	In the beginning there is [dynamic] 'system'. It is through system that we think. One has to understand <i>emergence</i> of system.
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lix **Active vs. Passive Vitalism.**²⁰⁷ (C. Colebrook, 2010)

It is certainly not enough to replace the 'objective' Cartesian space with the 'subjective' environment of *Umwelt*.²⁰⁸ We need to tap into the dynamic creativity, or the mutual becoming, of two transcendental illusions (paralogisms) or limit-conditions formerly known as self and world.²⁰⁹ It is always difference that is the condition of identity and not the other way around. If metaphysics is concerned with the beginning, and epistemology with foundation/ground, our task is to address consistency/consolidation. At the meso-level (formerly known as

²⁰⁷ The difference between the active and passive vitalisms is best summed up by Colebrook. See: Claire Colebrook, *Deleuze and the Meaning of Life* (London: Continuum, 2010).

²⁰⁸ Jakob von Uexküll, "A Stroll Through the Worlds of Animals and Men: A Picture Book of Invisible Worlds," *Instinctive Behavior: The Development of a Modern Concept*, ed. and trans. Claire H. Schiller (New York: International Universities Press, Inc., 1957), pp. 5–80. In everyday German *umwelt* means 'surroundings' or 'environment' but through the work of the German biologist Jakob von Uexküll (1864–1944) the term has acquired more specific semiotic meanings as: the ecological niche as an animal perceives it; the experienced world, phenomenal world, or subjective universe; and the cognitive map or mindset. Work with simple marine animals, especially sea urchins, convinced Uexküll of the subjective nature of signs received by a living organism. He found that environmental cues could only have an effect on the animal if the combination of stimuli was specific to the respective living being. "Beyond that," he observed in 1905, "the objects of the environment" do not exist for the sea urchin. Organisms from different species experience the world differently, that is, they have different *umwelts*. See also: Brett Buchanan, *Onto-ethologies: the Animal Environments of Uexküll, Heidegger, Merleau-Ponty, and Deleuze* (Albany: SUNY, 2008).

²⁰⁹ The four Deleuzian illusions are: 1) transcendence, 2) universals, 3) the eternal and 4) discursiveness. See: Gilles Deleuze and Claire Parnet, "Preface to the English Edition" in *Dialogues* (New York: Columbia UP, 1987). "Multiplicities are made up of becoming without history, of individuation without subject (the way in which a river, a climate, an event, a day, an hour of the day, is individualized). That is, the concept exists just as much in empiricism as in rationalism, but it has a completely different use and a completely different nature: it is a being-multiple, instead of a being-one, a being-whole or being as subject." By contrast, paralogisms bestow extensive properties of actual products on the intensive production process, or in the terms of the philosophy of difference, paralogisms subordinate differential processes to identities derived from products.

environment) the commitment to Passive Vitalism turns our attention to ecology, not as a tree-hugging pathos (the Gaia hypothesis), but as the ethos of irreducible complexity.²¹⁰ [Table lix] This is how Lewontin underscores the "indissoluble wholes" that could not be understood by being taken apart into bits and pieces:

Over the last three hundred years the analytic model has been immensely successful in explaining nature in such a way as to allow us to manipulate and predict it. It seems abundantly clear to us now that the holistic view of the world obstructs any possibility of a practical understanding of natural phenomena. But the success of the clock model, in contrast to the failure of obscurantist holism, has led to an overly simplified view of the relations of parts to wholes and causes to effects [...] Taken together, the relations of genes, organisms, and environments are reciprocal relations in which all three elements are both causes and effects. Genes and environment are both causes of organisms, which are, in turn, causes of environments, so that genes become causes of environments as mediated by organisms.²¹¹

To avoid the 'myth of the given' once and for all, the theory of invariants in extension (*sumplokē*) needs to be supplanted by a theory of invariants in intension (*multiplicity*).²¹² As Ballard noted, "The obsession with the specific

²¹⁰ Guattari postulates the necessity of founding an 'ecosophy' that would link environmental ecology to social ecology (socius) and mental ecology (psyche). Note the plural in 'ecologies'. Félix Guattari, *The Three Ecologies* (London: Continuum, [1989] 2008). See also: Bernd Herzogenrath, *An (Un)Likely Alliance: Thinking Environment(s) with Deleuze/Guattari* (Newcastle upon Tyne: Cambridge Scholars Publishing, 2008). According to Lovelock's Gaia hypothesis, the biosphere, atmosphere and geosphere form "a totality constituting a feedback or cybernetic system which seeks an optimal [sic] physical and chemical for life on this planet." See: James Lovelock, *Gaia* (New York: Oxford UP, 1987), p. 11.

²¹¹ See: Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (Cambridge, MA: Harvard UP, 2000), pp. 72, 100-101.

²¹² See: Bernard Cache, "Geometries of Phantasma" in *Projectiles* (London: AA Publications, 2011), pp. 84-85. "The key word here [*Sophist*, 240c] is the Greek term *sumplokē*, which means complication, interlinkage or 'entanglement' in contexts as varied as wrestling, sexual relationships, the combining of letters to form words, and of words themselves to form propositions. [...] Hence discourse is no longer a matter of *logos*, that is to say proportion, *ratio*, pure reason, but rather of *sumplokē*. In other words Plato, lacking the means to elaborate either a specific theory of projective invariants or a general theory of geometric invariants as a whole, takes as epistemological models the objects that would later pertain to another level of geometry, namely topology." See also: John McDowell, "Avoiding the Myth of the Given" in *Having the World in View: Essays on Kant, Hegel and Sellars* (Cambridge, MA: Harvard UP, 2009), pp. 256-272. We uphold McDowell's definition notwithstanding his Neo-Kantian (correlationist) leaning: "Givenness in the sense of the Myth would be an availability for cognition to subjects whose getting what is supposedly Given to them does not draw on capacities required for the sort of cognition in

activity of quantified functions is what science shares with pornography."²¹³ By contrast, each concept ought to be related to the variables that determine its mutations, rather than construed *a priori* (rationalism) or *a posteriori* (empiricism).²¹⁴ It is a matter of 'latitude' (*affect*) or capacity, what the body can do, rather than of 'longitude' or extensive parts under a (finite/optical) relation.²¹⁵ We thus have no hesitation in asserting that what architects create first and foremost are *affordances* and not an environment. *What counts in the oikos is not just the walls of the house...*²¹⁶ Pace Barthes, the city is *not* a discourse either.²¹⁷ An environment is in our view an aggregate of affordances.²¹⁸ And by affordance we mean a certain existence which is more than that which the idealist calls a representation, but less than that which the realist calls a thing.²¹⁹ It is an

question." Cf. Wilfrid Sellars, "Empiricism and the Philosophy of Mind," in *Minnesota Studies in the Philosophy of Science, Volume I: The Foundations of Science and the Concepts of Psychology and Psychoanalysis*, ed. Herbert Feigl and Michael Scriven (Minneapolis: University of Minnesota Press, 1956), pp. 253-329.

²¹³ Quoted in: Jonathan Crary, "Eclipse of the Spectacle" in *Art After Modernism: Rethinking Representation*, ed. Brian Wallis (New Museum, 1984), p. 292.

²¹⁴ See: Gilles Deleuze, "On A Thousand Plateaus" in *Negotiations, 1972-1990* (New York: Columbia UP, [1990] 1995), p. 31. See also: Bernard Cache, "Geometries of Phantasma" in *Projectiles* (London: AA Publications, 2011), p. 90. "One of the great failings of architectural theory has been its inability to go beyond a theory of proportions, a striking case being Le Corbusier with his Modulor."

²¹⁵ See: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 257.

²¹⁶ See: Félix Guattari, "Interview with John Johnson, June 1992" in *The Guattari Effect*, ed. Eric Alliez and Andrew Goffey (London, New York: Continuum 2011), p. 38. "Instead of a reductionist vision of being as natural being, being that is already there, it is a matter of posing the horizon of a pluralist ontology."

²¹⁷ See: Roland Barthes, *The Semiotic Challenge*, (New York: Hill and Wang, [1967] 1988), pp. 191-201. "[T]his conflict between signification and function constitutes the despair of the urbanists. There also exists a conflict between signification and reason, or at least between signification and that calculating reason which wants all the elements of a city to be uniformly recuperated by planning, whereas it is increasingly obvious that a city is a fabric formed not of equal elements whose functions can be inventoried, but of strong elements and nonmarked elements [...] Lastly, there exists an ultimate conflict between Signification and reality itself, at least between signification and that reality of objective geography, the reality of maps. Investigations made by psychosociologists have shown that, for example, two neighborhoods are contiguous if we rely on the map, i.e., on 'reality', on objectivity, whereas, from the moment they receive two different significations, they are radically split in the image of the city: Signification is experienced in complete opposition to objective data. The city is a discourse, and this discourse is actually a language [...]"

²¹⁸ This is what makes the approach ecological as opposed to psychophysical.

²¹⁹ A paraphrase of Bergson, "[A]n existence placed half-way between the 'thing' and the 'representation'." See: Henri Bergson, "Introduction" in *Matter and Memory*, trans. Nancy Margaret Paul and W. Scott Palmer (London: George Allen and Unwin, [1896] 1911), pp.

essential ingredient of reality, but one which does not by itself constitute reality: "[it] can have no concrete being without action, as a separate object on which to work its government, just as action cannot exist without the immediate being of feeling on which to act."²²⁰

Finally, we make no apology for the ventriloquism of making J.J. Gibson say more than he would have intended or wanted to. It is a way of releasing problems from a corpus.²²¹ Hence the suffix *-ism* in the title.

xi-xxi. http://www.brocku.ca/MeadProject/Bergson/Bergson_1911b/Bergson_1911_00.html (accessed May 25, 2011).

²²⁰ See: Charles Sanders Peirce, "What Pragmatism Is" in *The Monist* (Vol. 15, No. 2, April 1905), pp. 161-181.

²²¹ Claire Colebrook, "Derrida, Deleuze and Haptic Aesthetics" in *Derrida Today* (Vol. 2, No. 1, 2009), pp. 23. "A proper name is both a territory, an orientation and stability that is required for thinking, and a de-territorialising potential or the opportunity to take a body of work beyond its actualised embodiment. Theory may, then, be the mention of proper names that will enclose thinking in a certain habitus. Theory may also be an imperative to deterritorialise a mode of thinking: the potential of taking the style of a problem beyond its actualised and historically contextualised form."

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Radman continues to practice architecture and has won a number of awards from national competitions in partnership with architect Igor Vrbanek, including the Croatian Association of Architects Annual Award for the most accomplished housing architecture in Croatia in 2002. Radman's research focuses on radical empiricism in general and J.J. Gibson's ecological approach to perception in particular.

*[T]he relationship between the two planes,
between technical and aesthetic planes of composition
constantly varies historically. [...]
no art and no sensation have ever been representational.
(G. Deleuze and F. Guattari, 1991)*