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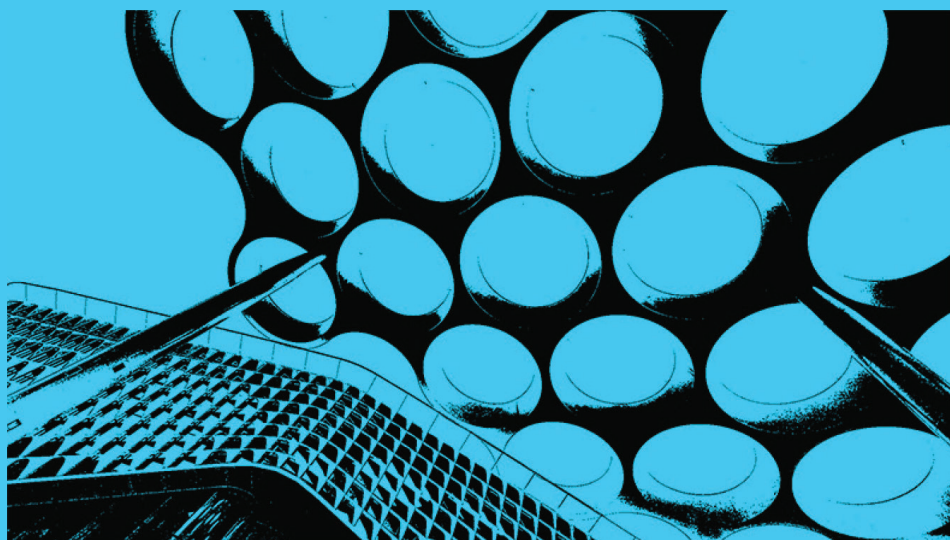
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THE SPACE OF TECHNICITY

Theorising Social, Technical and Environmental Entanglements

Robert A. Gorny, Stavros Kousoulas, Dulmini Perera and Andrej Radman, editors



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Book Abstract

Desperate times demand optimistic transdisciplinary measures. This volume unites a select group of thinkers who courageously traverse disciplinary boundaries. What brings them together iWs the least stratified 'component': a shared problem. It is a widely recognised that a problem gets the solution it merits. However, only a few acknowledge that a problem seldom neatly fits within a single discipline, nor does it conform to the principle of general equivalence. Handling its irreducibility and non-entailment is a skill possessed by very few. Even fewer take the quasi-causal capacity of what we term the 'space of technicity' seriously.

The space of technicity, the shared problem of this volume, is a consequence of immanence. Each configuration of surfaces comprising the built environment produces an intangible effect, acting as a quasi-cause. It can be referred to as downward causation or the timely rediscovery of (neo)finalism.

In this volume it is approached it from the perspective of axiology. The space of technicity allows us to evade techno-determinism without adopting an anything-goes attitude. That which has become manifest could have individuated differently. However, the potential of a body cannot be discerned before intervening in the causal fabric of agential reality to extract the singular points that make certain outcomes more likely than others, surpassing mere probability.

Series Abstract

The *Ecologies of Architecture* Book Series promotes a transdisciplinary approach to architectural thinking and doing by extending its interest to topics that bring together the three ecological registers, namely the environment, the social and the individual. Such an approach accounts for what the built environment will come to be, and speculates about who will become alongside it. The series focuses not only on the why, what and how of architecture, but also on the who, who with and for whom.

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Introduction:

Socio-Techno-Environmental Entanglements

Robert A. Gorny, Stavros Kousoulas, Dulmini Perera
and Andrej Radman, editors

Our present condition urges those critically and creatively engaged with it, to address the transformative potentials that are brought about by a highly intertwined triad of changes. As the posthuman philosopher Rosi Braidotti notes, these three changes can no longer be addressed in isolation or in the context of singular disciplines. At an environmental level, we are entangled within deteriorating ecological systems, global changes in climate that affect areas and populations in vastly divergent ways, and massive species extinction that disrupts a variety of symbiotic relationships. At a social level, we are entangled in increasing structural injustices brought about by economic and political systems going increasingly haywire. Finally, at a technological level, we are entangled in new techno-logical developments mostly related to developments in cybernetic-informational systems redefining the human and life in general, (design) intelligence, and related systems of bio- and necro-political governance and control, that accelerate in their longstanding dehumanizing and disindividuating logics and effects.¹ Given its urgent multi-layered social, psychological, and environmental dimensions, this latter technological condition in particular cannot be answered through technology alone. It requires a compound view that ought to be not just multi-, cross-, or inter-disciplinary, but fundamentally trans-disciplinary, in order to address issues in a transversal manner.

This book is an attempt to cut across some of the multifarious relations between the three – environmentally, socially, and technologically – changing dimensions of reality with the aim of opening such a transversal path. Its ambition is to re-think these changes relationally as “analytically reducible” but “ontologically

inseparable" relate that co-emerge from primary relationships. We are not just entangled in the fields of forces and powers, but the very entanglements make us who we are and determine what we can do. Such a radical relational theorization of socio-techno-environmental entanglements presents itself as an urgent endeavor, to the extent that the Western threefold binaries between nature/culture, culture/technology, and technology/nature can be said to have contributed to many of the present predicaments by having reduced these relationships to different things. *The Space of Technicity* is therefore positioned within a wider ongoing endeavor across the natural sciences, humanities, and arts to re-theorize them as aspects of co-constitutive dynamics in order to mitigate the pernicious problem of binary thinking. In their entailment of related form/matter, structure/agency or subject/object divides, these binaries have fostered discriminations based on hierarchical ontologies, speciesism, anthropocentrism, and human exceptionalism, all of which have been reiterated (and are being reiterated as we write) through discursive and disciplinary divisions.

Due to long-lingering container conceptions of space, both theoretical and designarily, spatial discourses have discussed the environmental, the social, and the technological rather reductively. Space is commonly thought of as something external or extensive, meaning as a background material environment, which is made up of inanimate and passive objects or formations that space contains, and in which living and active bodies and forms of life act. In this figure/ground dialectics only humans supposedly have a special status thanks to the wider role of technologies that distinguish them in their capacity of transforming the world into objects. In the case of architecture, history, and spatial sociology, social space is more specifically understood as a construct: a *product* of social and spatial practices.² In this formulation architecture is but one of many other relational ecologies, economies, and technologies of creative practices.³ Thus any question of the production of space or place cannot be addressed in isolation, as it is located at the intersection of social, technical, and environmental realities, including the many displacements and forms of othering that characterize the present. Spatial production must be studied in conjunction with the multiple ecologies of social production and technical knowledge systems that are *middling* with it in the first place.

Regarding this middling, neo-materialist scholars such as Braidotti have radically rethought space in intensive terms as an embodied, embedded, relational and affective milieu from which living systems emerge. In contrast to simple Darwinian ideas of evolution, space enables and shapes certain forms of life that do more than passively adapt to ecological niches, which they inhabit in more or less mutual relationships. Rather, most life-forms actively adapt and re-shape their environments through niche construction processes, which fundamentally

change evolutionary dynamics to the point where forms of life – like humans – mutually adapt to their own adaptations and artificial conditions of adaptation in a recursive loop.⁴ Machines everywhere; assemblages all the way down. This recursive notion of feedback and systemic operations is not only relevant to understand the ongoing formations between architecture, cybernetics, and ecology.⁵ It also lies at the core of a wider endeavor across many fields – from quantum field theory to evolutionary biology to cognitive sciences – to underscore the technical functions that material environments bear as enabling constraints within processes of self-organization – from ontogenesis to path-dependent evolutions – in which certain lifeforms arise among (and at the expense of) other possible ones.⁶

Based on this radical critique of container conceptions of space, the title of this book is not to be understood as looking for a “space *for* technology,” nor does it aim to offer answers on how to use space as some technophilic instrument for or against something according to some dictum like Cedric Price’s “if technology is the answer, then what was the question?” Instead, it begs the question what space actually does in its “produced yet further productive” nature as a transformative material environment.⁷ It problematizes how architecture and environmental design in the widest sense engender and operate by means of technicities. Yet, problems never sit neatly within a single discipline, nor do they lend themselves to principles of general equivalence. This anthology recognizes the general reluctance to tackle the irreducibility and non-entailment that comes with this dispositional dimension. The disposition of problematization has always been to open up new (and better) questions by reframing the problem. This book project revolves (and has evolved) around a shared problem of how to make sense of ongoing environmental, social, and technological developments. One *ecological* way, we suggest, lies in a new apprehension of the space of technicity.

When Technicities are not Technological

Technicity is not technology. Coined in the ground-breaking work of French historian and philosopher of technology Gilbert Simondon, the ontogenetic notion of technicity has been used to move beyond the study of mere technical objects and instead approach their genesis in terms of “modes of relation” between beings and their world;⁸ be it humans and technical objects, or ensembles, or living and non-living systems in general. In this account, technicity describes an emergent aspect in the formation and organization of assemblages. It concerns the moment where these transform at the point where the workings of certain objects that are constitutive for these assemblages, having initially remained in a “magical” mode, become part of a new form of technical consciousness with which these workings come to be tooled for certain ends.⁹ Francophone scholars have tended to distinguished *technics* from *technology* as a certain scientific logic or progressivist

rationale for using technics. Overshadowed by the modern understanding of technology, Simondon reserved the notion technology for the critical study (*logos*) of how technics operate. This way, technologists (or “mechanologists” as Simondon called them), more than psychologists, can help cultivate a new awareness of the working of all sorts of machines and how they affect self-organization processes and evolving systems. In the case of architectural technicities, this calls for a new philosophy of architecture that intuits the space of technicity in a non-reductive manner,¹⁰ and thereby comes to terms with – and makes sense of – the wickedness and messiness of the workings of such systems.¹¹

In this mechanological aim, *The Space of Technicity* investigates how or where the space of technicity arises from generative environmental, social, and technical relationships, how they come to be environmentally constructed and embodied, how they might be employed for engendering transformative becomings, and all in ways that are not readily reducible to the relations these relations establish, such as humans interacting with technology. This is effectively an exercise in revaluating space. In deconstructing the *res extensa* relation, technicity inverts the underlying logic to one of intensity and immanence. It suggests that certain things, life-forms, and life-worlds come to be, “become-together-with,” and co-evolve through systemic relationalities and constitutive entanglements to emerging technicities.¹² They “crystallize” (to use Simondon’s vocabulary) into particular socio-techno-environmental formations, and “concretize” into technical objects and larger ensembles that configure these processes further and dispose in particular directions.

To revisit this emergent aspect of technicity in its configurative dimension, the target of this conceptual inversion lies in the second aspect: space, as a problematic and yet often mysterious “black box,” but whose production, and productive and configurative nature, is the shared individuating knowledge par excellence of many contributors to this book. Configuring or organizing space is precisely what architecture supposedly does. Therein it presents an interface lying at the intersection of three ecologies (environmental, social, and psychological) described by Félix Guattari;¹³ one of the many “ghost writers” of this book. Through Simondon and more recently Stiegler, Yuk Hui, and Karen Barad’s work, among many others, especially the dimension of subjectivation and psycho-social becomings has since been much de-psychologized to help start from the process of individuation and not from already constituted individuals as products. In the same vein, Foucault long suggested that architecture ought to be subsumed to an aspect of technics.¹⁴ This us helps reconsider the processes of individuation architecture engenders in much more machinic terms how the “what” (technicity) determines the “who” (subjectivity). Concerning this “how,” technicity avoids “mono-technological thought” and calls instead for a multi-logic of worlding

practices, in accounting for the different metaphysical spaces that are recursively created by means of cultural techniques or cosmotechnics.¹⁵

This way, *The Space of Technicity* introduces the strange machinic ecologies of architecture as a crucial interface between environmental and social arrangements and the forms of knowledge that reciprocally shape their production. From this machinic angle, the configurative aspect of architecture as a *dispositif* must not to be sought in its actual form or plan. Rather, its generative forces and potentials reside in virtual intensive relations that are better thought of as a phase space diagram. Within emergent systems, differential relations like intensity and proximity are key drivers in the production and actualization of particular relationships to the exclusion of other possible ones. Beyond the still extrinsic conception of a production of specific socio-techno-environmental assemblages with their heterogeneous and spatialized constituents, technicity arises from (and is thus intrinsically connected to) the production of a more abstract space of possibilities generated by and associated with different assemblages and how they work.¹⁶ It implies that any evolving system has, within its constitutive constraints, a built-in transformative elbow room for things to unfold. This is no actual space, but a virtual one; a space of immanent forces and powers, of intensities. It is a product of immanence. Once understood, this elbow room can be tapped into and manipulated.

This is where the question of “design” kicks in; not just problematizing who is charged with creating and modifying spaces of possibility, but addressing the question in reverse by asking who is created by it.¹⁷ What subjectivities, collectivities, and assemblages are created by the *how* of modulating what is related to what? For example, elevating a portion of the ground by eighty-odd centimeters will have profound ethological and hence ethical consequences. Labelling it a table merely amounts to pigeonholing a number of generative relationships that work their magic in affording certain actions. Next time you enter into such an assemblage, please pay attention to the actual arrangement and its virtual effect-cum-cause; focus on the production of sense, which is never given, but always made. An oval table is very different from an elongated orthogonal one, not simply in dimensional, but in technological terms. One could argue that the oval table fashions a different social body than the rectangular one. Any table assemblage is more or less sit-around-able, more or less lean-against-able, more or less hide-underneath-able, more or less own-able, more or less jump-on-able, more or less knock-down-able, and so on. The emphasis on the “more or less” – as indeterminate yet capable of determination through activity – is crucial. And this activity is, on the most elementary level, motivated by value. As a spatial assemblage, it affords different possibilities that depend on the actual relations that it enables and individuates. Yet such spaces of possibilities for future evolutions are

always themselves “designed” depending on the system's past evolution. As such, any spatial formation can be understood as an enabling constraint opening up auto-affective systems to emerge in path-dependent ways.

Locating both the elbow room that enables change and the constraining concatenations through which systems stabilize and regularize themselves and their constitutive dynamics, helps us see individuation in a richer way: as a transindividuation in which technical individuation is deeply entangled with psycho-social individuation. The social and mental dimensions of individuation are dependent on a kind of spatialization: a spatial or built arrangement of a tertiary layer that couples the becomings of individuals and groups into a particular co-constitutive relation.¹⁸ We argue that situating knowledge production at the very production sites of transindividuation, by mapping out and diagramming such couplings, facilitates ongoing efforts of intuiting the mechanisms for bringing forth other futures and worlds, literally breaking open limited possibilities.¹⁹ Crucially, this approach avoids techno-determinism without replacing it with the relativist anything-goes attitude. The truth of the relative, which is not to be confused with the relativity of truth; for one cannot know what a body can do before intervening into the causal fabric of reality. Enabling action becomes ethical.

As such *The Space of Technicity* is a critical and creative intervention that cuts across a wider turn in contemporary theories. The book cross-connects a set of ongoing socio-environmental debates in posthuman and neo-materialist discourses that use heavy doses of monism and affect theory in their assemblage-theoretic and (counter)cartographic approaches. Further on, the book links such discussions with socio-technological questions addressed in parallel by many scholars that engage with the increasing social effects and decoherence fostered by environmental and technological changes, as well as a series of social and technological considerations in the expanded field of spatial/environmental design.

Structure of the book

This anthology brings together a small cohort of thinkers who dare to traverse and transgress disciplinary boundaries. What brings them together, in a joint deterritorialisation, is the shared problem concerning the various technicities involved in making spaces. Instead of giving facile answers on what those technicities are, their writing makes space for conversation about different perspectives of overlapping and complementary planes of analysis that create new starting points for theorizing the social, technical, and environmental entanglements from which technicity arises. The argument cuts three ways in inquiring what technicity could mean from three co-constitutive perspectives. More than absolute categories, we like to think of these three layers as navigational tools, as they cluster around

several concepts and lines of further investigation, while moving the reader through and across to the other levels.

Part One sets out from the question of "Dis/Empowering Technicities." In an initial move from the social, through technical and to environmental registers, the three chapters in this vector explore ways to decolonize the space of possibilities. On a formal-methodological level, this part is made up of three expository case studies (see Protevi in this volume), which outline various cartographies of cumulative worlding processes.

The first contribution is by architecture theorist Heidi Sohn, whose work attends to how political economy affects territorial, spatial, and material phenomena, and promotes related posthuman and neo-materialist theoretical and philosophical lenses to revisit architectural culture.²⁰ In Chapter 1, "Ode to Chaos: Neotropical Entanglements and Other Narrative Fictions from the Pluriverse," Sohn takes us to the *Mayab*, the intoxicating universe of Maya culture, where she investigates and interweaves several sites and storylines in an onto-cartographic account of the viscous liquids honey and crude oil, contested sites of extraction, competing human political agendas and quite literally nonhuman, otherworldly desires or intentions of specific naturalist deities. A line of inquiry binding the many stories traces the complex cosmological and symbiotic relations between the indigenous Maya and an endemic honeybee, and the collapse of these relations after the introduction of European honeybees and sugar cane plantations as models that paved the way for the assemblage of modern agribusinesses fuelled by oil and high technologies. Addressing the nested scales of these assemblages, and what kind of world they promote, the chapter critically places this process within a framework of a "world of many worlds." Sohn's pluriversal inquiry is one that seeks to engage chaos, the realms of *Xa'ak'*, that in the Mayan universe has less to do with absurdity and disorder, but rather indicates a cosmic source prior to all life that engenders creation and destruction, but carries potential within it. Using the very entanglements between the bees, humans, forests, honey and crude oil, and their potential for ordering and disordering that brings the reader closer to the realms of *Xa'ak'*, Sohn's cartography raises the question of ontological design and world-making technicities. The chapter is an invitation to reframe the ongoing environmental collapse as the collapse of an impossible one-world world model, so as to engage in its urgent transformation towards ontologically manifold models.

The processes of colonial transmutation that recursively return in the history of designed systems, are further explored by Lila Athanasiadou, a writer and researcher with an interest in understanding architecture and urbanism – and the increasing use of digital tools within its production – as a complex instrument of subjectification.²¹ Chapter 2, her contribution, titled "Gentrification, Colonialism,

and Urban Echo Chambers," offers a fervent and lucid critique (a counter-cartography) of somewhat naturalized conceptions of (and discourses about) gentrification as a ubiquitous force shaping urban life. Through the work of post-colonial critics like Brena Bhandar and Frantz Fanon, Athanasiadou exposes the broader processes of gentrification as a socio-political construct fundamentally shaped by (settler) colonial, racial, and commodity logics, and by capitalist ideologies. This exposition begins with a concise review of the longer history of those ideologies, long hidden behind legal questions concerning property, ownership, territory, or land value, and modernist narratives of "development" and "improvement" of unproductive land or areas through economic investment, as they hide constitutive processes of disinvestment that initially lead to dispossession and displacement. Turning to the recent past where these ideologies – or better, noologies – are increasingly obfuscated by forms of algorithmic abstraction, the chapter presents a critical analysis of fifteen years of urban and social housing policies in Rotterdam, their not-so-hidden discriminatory agendas, and their social cleansing rhetoric. In thinking with media-theorist Wendy Chun, the chapter traces how such disguising markers of racial discrimination by naturalized proxies came to be further entrenched into statistics and algorithmic sets of "discriminating data." This "smart" marketing of cities and residential areas as homogenized lifestyle options, the chapter warns in conclusion, erodes the constitutive characteristic of cities as cosmopolitan places of encountering and negotiating difference and heterogeneity. In this regard, the urban echo chamber is used as a conceptual tool to make links to design at the level of law, policy, and planning technicities. This connection points to the frictions between individual possibilities (such as housing ownership) and how they come to be restricted by constraints put forth within a historically-constructed system.

The linkage between gentrification and the colonization of land resonates closely with the geological reading in Chapter 3 by Alina Da Porciuncula Paias. "Ghosts of the Rio Doce: Tracing the Ethical Grounds for A Hauntological Practice of Architecture at the Site of Disaster" frames a mining site as an event in its entangled social, technical and political complexity. Kathryn Yusuf's geology as a way of seeing (and changing) accompanies the unpacking and making present of the colonial transmutation process at work in the mining site.²² The complex relations between mining, erasure and purity are further problematized, resonating with Athanasiadou's concerns about development, displacement and the social cleansing rhetoric. Paias questions the possibility and necessity of engaging the presence of the past in ways that care for "problematic ghosts" such as colonialism. Through a thread of inquiry that connects different discourses, from Bergson's theorizations of memory and time at a psycho-social level all the way to Karen Barad's conceptualization of indeterminacy at the quantum level, the

"hauntological investigation" emerges as central to making present the repressed or unresolved violence of the mining event. By opening the site to multiple stories, Paías's mobilizations of hauntological investigation not only informs her writing but also shows that there is room for potentializing the unactualized "virtual" of the material traces that colonial logic has backgrounded. Therein the chapter helps to further de-stratify the first discourses on what may be thought of as primarily social aspects "in space". The more-than-human and posthuman direction it suggests, instead accounts for environmental-material conditions within such self-organizational processes to which we move in the second part.

Part Two centers on questions around "In/Formational Technicities." In a move that starts from the technical, leads to the environmental and then back to social registers, the four contributions to this part examine information not as data, but as the production, consumption, and dissemination of meaning (what is affectively relevant and significant), so as to postulate that the space of technicity is fundamentally informational. In the form of two discourse-analyses and two more synthetic accounts, this part suggests that, if information is the only thing that escapes natural laws and allows the cosmos to individuate further, designing ought to be reconceived sensibly in terms of modes of relationality.

The discussion opens with a contribution by the architect and architecture theorist Gökhan Kodalak, whose research is marked by its longstanding engagement with the philosophies of Spinoza and Simondon, their conception of how environments affect psycho-social life, and the implications these conceptions have for architecture.²³ In Chapter 4, "Gregory Bateson, Distributed Mind, and Cybernetic Ecology," Kodalak guides us through a critique of Western modes of representationalist thinking consolidated within Descartes's division of mind and matter, and the way they haunt current discussions on informational systems. Based on this critique, he elaborates on the radical epistemological operation that led Bateson to understand such diverse entities as thermostats, cities, and redwood forests as a "distributed mind" (an immanent continuum), eventually reframing how design stands in relation to technology and current limitations. The author does so by the reframing of "information," scaffolded by the unwitting resonances between Bateson and the Spinozian ethics of immanence. Accordingly, the mind is not just a biological feature possessed by living things. Rather, it ought to be seen as an emergent becoming inherent in the self-organization of systems that are fundamentally made up from organized but non-living matter; the mind then emerges when these systems process "significance." Asking about the relevance of this conception for architectural modes of thinking through matter, the chapter suggests substituting *res extensa* visions in which the world is chunked into pre-existing components and elements to form a new Batesonian "minimum unit," namely the "organism *plus* environment," or "being *plus* milieu," whereby

the emerging mental dimension is enmeshed with material environments. The chapter's second half generalizes Bateson's epistemology and cybernetic ecology within a heterarchical framework, a notion systematically explored in Kodalak's work, which helps foster a more Spinozist, immanent conception of affective self-organizing matter. The chapter concludes by stressing the ethical implications (and potentials) of such a conception in light of our current ecological entanglements.

This invitation to rethink the term "(design) intelligence" in ways different to the common usage in design's computational theories, is extended in Chapter 5 by Bruce Clarke, whose research on the wider relation between literature, space, and cybernetics has since the mid-2000s repeatedly engaged with posthuman and Gaian systems theory.²⁴ The chapter, "Gaian Technics: Lynn Margulis, Natural Technicity, and the Technosphere," approaches Margulis's work as a somewhat inverse and complementary reading to Simondon's ontology of the technical, and his account of its ontogenesis. With a Gaian inflection, Clarke attends to an emergent technical capacity built into natural organic development, which he calls "natural technicity." Based on Margulis's distinction between autogenic organisms (that shape environments via their physical structures) and allogenic organisms (that shape their environments by non-organic means), the chapter highlights Margulis's seminal steps towards a wider history of allopoietic life.²⁵ In its various natural technicities, which emerge in its ontogenetic form – which biologists call adaptive niche construction – allopoietic life is highlighted as a geological force that arose long before the appearance of humans and their increasingly impactful technologies shaping the planet. In this longer natural history, in which "machines" have always been part of evolving systems, the Anthropocene might be revisited as a "new regime of natural technicity," where previous forms of niche construction have progressively become forms of niche destruction. In connecting niches more explicitly to design theory, Clarke calls for a renewed understanding of the recursive function of "waste" as a resource for change, and recycling processes in life's co-constitutive technosphere.

This investigation of autogenic organisms as engineers and niche constructors is complemented by the subsequent elaborations of Sha Xin Wei, whose transdisciplinary and experimental art, technical research, and scholarship shares a wider interest in topological approaches to poiesis, play, and process.²⁶ In line with *The Space of Technicity's* general problematization of the way that technology functions as a mediator between social and environmental formations, Chapter 6 strategically stresses the processual aspect of our world. It considers "how technologies and techniques mediate between human, biosemiotics, and physical processes," and introduces – as the title designates – "A Metabolic Approach to Designing Space." Sha critiques a number of limited ways in which design and

architecture have formally mimicked metabolism, in notions of biomimicry, metabolic design, or biophilic design. Instead, he redefines metabolism via the use of biological systems theory, particularly the mathematics of phase space in biology as opposed to mere mathematical readings of phase space. Terms like open-endedness, dense metastability, metastable politics, instability, and non-prestatability form the central conceptual angles for the proposed metabolic theory. This theory is exemplified in the context of a piece of software, called the SC State Engine Project, for composing responsive media environments. In its elaboration of this approach, and how evolution is not guided by laws, Sha's chapter not only harks back and retroactively informs Kodalak's reading of more-than-cybernetic ecologies, but it also anticipates various strands in the subsequent chapters. All focusing on evolving technical objects from the planetary scale (like those of Clarke and Kodalak) to interior spaces (Sha), these three chapters critically revisit the ways in which design's politics and ethics are redefined across different scales within the more-than-human complexity of living systems. Through their shared assumption that life operates by means of technologically mediated forms of co-evolution and sympoiesis, the chapters of this vector lead us through several serious reconsiderations of how design itself designs our own ways of being.

The second part concludes with Stavros Kousoulas and Andrej Radman's "Annotate This! Semiotization, Automation and the Recursive Causality of Images." Chapter 7 challenges the inherent homogenization resulting from the uncritical adoption of automation technologies, commonly referred to as AI. The authors assert that sensibility injects heterogeneity into thought development, establishing contingency an essential thinking condition, unbound by datafication. Their primary focus lies in semiotization, where experience returns the body to a process field of exteriority. *Imagi(ni)ng*, as the creative force within an imagistic cycle, thus emerges as a transindividuating activity that modulates sense.²⁷

Part Three offers a discussion of "Onto/Technicities." Moving from the environmental through the social and the technical, the three contributions to this part invite us to rethink subjectivity, especially in its ingrained substantive conceptions, adopting a post-Darwinian notion of sensibility where our receptive faculties are themselves the result of design. By connecting the somatic and the social, the subjective and the objective, through the determining power of affective indeterminacy, the chapters of this vector enunciate a transindividuation that avoids the pitfalls of genetic determinism and social constructivism.

This last part opens with a contribution by Agnieszka Anna Wołodźko, whose affect-theoretical work investigates the ways in which (bio)art and design – using living bodies and matter as its medium – contributes to changes in the contemporary understanding of bodies.²⁸ Chapter 8, "Agropleasure in Demonic Grounds – On Resistance Across Gardens," attends to gardening as resistance (in

contrast to perhaps more hegemonic technopractices), exemplifying the movement from the environmental (garden) to questions of the socio-technical (labor relations and their implications for the body). While concerned with the questions of whose worlds and worlding the gardening practice engenders, in the spirit of Sohn's essay, the chapter enables a significant extension of the vegetal and its potential for rethinking the complex ways technicities operate at the level of affect and potential. For Wołodźko, the garden and its more-than-human infrastructures generate affects that pave the way for making present the absence of the labor of the many. The movements within and through the multiple layers of the garden become an invitation to traverse the complex terrain of labor.

A similar sort of affective transindividuation is expressed in the contribution by John Protevi, known best for his various expositions of Deleuze and Guattari's assemblage theory, and his numerous contributions at the intersection of political economy, affect-theory, and enactive cognition.²⁹ Chapter 9, "Under the Dome: The Events of January 6," provides an enactive political philosophy, outlined through an examination of the events that led to the storming of the US Capitol in 2021, and the rioters' affective-cognitive states that led to this type of collective self-organization. After an initial clarification of the Deleuzian conception of an "event" and its implication for what ought to be examined in case studies, Protevi's analysis departs from an enactivist extension of the notion of autopoiesis. Addressed through Ezequiel Di Paolo's ideas of embodied cognition and enactive cognition, Protevi argues (in line with the central arguments detailed in Part Two) that autopoiesis ought to be understood as an adaptive process built into the structural coupling of organisms to their environment. This section takes its lead from the Gibsonian notion of affordances. In sharp contrast to the constraining features of an environment, affordances present relationships between sense-making organisms and environmental structures that afford the potential for certain actions, and which may help incite or solicit action. Protevi then presents an affective cartography of how the Capitol conditioned, in its in its wider political affordances and singular circumstances, one of the mediatized actions, namely the Q Shaman's prayers on the dais of the Senate chamber. He also looks at other instances of defilement that refer us back (both historically and in the overall argument of this book) to the colonial labor processes that enabled the material architecture of the building.

The notion of the event in Chapter 9 resonances with the subsequent theoretical outlines by Marc Boumeester, whose research lies at the intersection of media philosophy, art and design theory, and related pedagogies, problematizing the relation between perception, socio-economic conditions, and affective capacities.³⁰ Chapter 10, titled "Technicity as the Montage Production of the Mundane," approaches the production of perception as a fundamental part of the technicities

that construct urban life, especially the exceptional role of the mundane in forming an “exo-identity” of places as mental projections. Through a Deleuzian reading in which sense is never given but made, perception is understood as a cinematographic device through which daily life, identities, and reality come to be constructed immanently from an actualization of many virtual elements, whose relation is reciprocally determined within certain events. Harking back to Clark’s and Protevi’s chapters, Boumeester understands this cinematographing action autopoietically, and extends this conception through the notion of impredicativity: as something produced by what it produces in the first place. Similar to psycho-geographic maps, this mechanism formalizes (and as such actualizes) potentials and virtualities in mental projections, at the expense of others, which guides a selective filtering of information. This biased perception gives further rise to meta-images – which Boumeester calls images by proxy – that merely reify already-existing expectations and significations (a common example being the imaginaries around certain tourist destinations such as Paris). After elaborating how these abstract machines come to form auto-affective systems, the chapter concludes – in a somewhat unexpected twist – that instead of simply re-presenting reality all over again, such machines produce a completely new type of reality, desires, and subjectivities.

Advocating a novel technical literacy in spatial-environmental technologies and associated practices such as architecture and urbanism, the book inaugurates the *Ecologies of Architecture* series. It serves as a point of departure for scholars examining space and its technicities from an e(thi)co-aesthetic angle. We hope that this collection contributes in the form of a general theory (mechanology) of the “technicities of spaces” that emerge from assemblages, and at the same time as a population of specific theories that allow us to strategically intervene in situated processes, where the technicity of (concrete) spaces arises from particular socio-techno-environmental entanglements. And with it we hope that the scholars thinking and working through the complexities and systemic entanglements of our present will not only find a scaffold within these pages through which to individuate new knowledges but also operational ways forward to turn negative and disindividuating processes into affirmative becomings.

Notes

- 1 Rosi Braidotti, *Posthuman Feminism* (Cambridge/Medford: Polity, 2022), 3.
- 2 For recent critical extensions of this Lefebvrian position, see e.g. Doina Petrescu and Kim Trogal, eds., *The Social (Re)Production of Architecture* (Abingdon/New York: Routledge, 2017); and Meike Schalk, Thérèse Kristianson and Ramia Mazé, *Feminist*

Futures of Spatial Practice: Materialism, Activism, Dialogues, Pedagogies, Projections (Baunach: AADR, 2017)

- 3 On the notion of ecologies of practice, see Isabelle Stengers, "Introductory Notes on an Ecology of Practices," in *Cosmopolitics*, trans. Robert Bononno (Minneapolis: University of Minnesota, 2010), 183–96; as applied to architectural practice, see Hélène Frichot, *Creative Ecologies: Theorizing the Practice of Architecture* (London: Bloomsbury, 2019). On ecological approaches to architecture in general, see especially Peg Rawes, ed., *Relational Architectural Ecologies: Architecture, Nature, Subjectivity* (Abingdon/New York: Routledge, 2013); Hélène Frichot; Catharina Gabrielsson, and Helen Runtig, *Architecture and Feminisms: Ecologies, Economies, Technologies* (Abingdon/New York: Routledge, 2017); and Andrej Radman, *Ecologies of Architecture: Essays on Territorialisation* (Edinburgh: Edinburgh University Press, 2021).
- 4 For a discussion of related extensions of genetic theories towards epigenetic and possibly epiphylogenetic processes, as suggested in the work of philosopher of technology Bernard Stiegler, see Robert A. Gorny and Andrej Radman, "From Epiphylogenesis to General Organology," *Footprint* 30 (2022): 3–20.
- 5 See Stavros Kousoulas and Dulmini Perera, "Five Points Towards and Architecture In-Formation," *Footprint* 28 (2021): 3–8.
- 6 See e.g. Alicia Juarrero, *Dynamics in Action: Intentional Behavior as a Complex System* (Cambridge, MA: MIT Press, 2002) and Terrence Deacon, *Incomplete Nature: How Mind Emerged from Matter* (London/New York: Norton, 2012).
- 7 See Robert A. Gorny, "Reclaiming What Architecture Does: Toward an Ethology and Transformative Ethics of Material Arrangements," *Architectural Theory Review* 22, no. 2 (2018): 188–209.
- 8 Gilbert Simondon, *On the Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis: University of Minnesota Press, 2017).
- 9 See Simondon, *On the Mode of Existence of Technical Objects*, part III, "The Essence of Technicity."
- 10 See Stavros Kousoulas, *Architectural Technicities: A Foray into Larval Space* (Abingdon/New York: Routledge, 2023).
- 11 Dulmini Perera, "Wicked Problems, Wicked Play: Fun Machines as Strategy," *Form Akademisk* 13, no. 2 (2020), doi: 10.7577/formakademisk.3378.
- 12 On the notion of becoming-with, see Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 58. On the notion of entanglement, see e.g. Karen Barad, "Nature's Queer Performativity," *Women, Gender & Research* 1, no. 2 (2012), 25–53.
- 13 Félix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton (London: Athlone Press, 2000 [1989]).
- 14 Michel Foucault, "Space, Knowledge, Power," in *Essential Works of Foucault*, Vol. 3, ed. and trans. Paul Rabinow and James D. Faubion (New York: The New Press, 1997), here 361–2.
- 15 Yuk Hui, "On Cosmotekhnics: For a Renewed Relation between Technology and Nature in the Anthropocene," *Techné* 21, no. 2–3 (2017): 319–41; Luciana Parisi and Ezekiel Dixon-Román, "Recursive Colonialism and Cosmo-Computation," *Social Text* Online (2020), available online at https://socialtextjournal.org/periscope_article/recursive-colonialism-and-cosmo-computation/.
- 16 Manuel Delanda in conversation with Christopher Cox, "Possibility Spaces," in *Realism, Materialism, Art*, ed. Christoph Cox, Jenny Jaskey, and Suhail Malik (New York/Berlin: Sternberg, 2015), 87–84.
- 17 This point was wonderfully problematized, for instance by Laura Diamond Dixit, Kadambari Baxi, Jordan Carver, and Mabel O. Wilson, "Who Builds Your Architecture?," in *Asymmetric Labors: The Economy of Architecture in Theory and Practice*, ed. Aaron Cayer et al. (Brooklyn: The Architecture Lobby, 2016), 37–42.

- 18 On this point see Nathan Van Camp, *Redesigning Life: Eugenics, Biopolitics, and the Challenge of the Techno-Human Condition* (Bern: Peter Lang, 2015), especially ch. 5.
- 19 See also Nishat Awan, "Mapping Otherwise: Imagining Other Possibilities and Other Futures," in *Feminist Futures of Spatial Practice*, ed. Meike Schalk, Thérèse Kristianson and Ramia Mazé (Baunach: AADR, 2017), 33–42; see e.g. the articles by Anil Bawa-Cavi and Patricia Reed, "Site as Procedure as Interaction," and Elie Ayache, "The Only Possible Project," in *Construction Site for Possible Worlds*, ed. Amanda Beech and Robin Mackay (Falmouth: Urbanomic, 2020), 83–99 and 193–208.
- 20 Heidi Sohn, "Monstrous Becomings: A Minor Cartography," in *Architecture and Ugliness: Anti-Aesthetic and the Ugly in Postmodern Architecture*, ed. Thomas Mical and Wouter van Acker (London: Bloomsbury, 2020), 77–94; Sohn, "Heterotopia Unbound: Undisciplined Approaches to 'Space Otherwise,'" in *Differences in the City*, ed. Julia Urabayan and Jorge León Casero (New York: Nova Science, 2020), 3–15; Sohn and Andrej Radman, eds. *Critical and Clinical Cartographies: Architecture, Robotics, Medicine, Philosophy* (Edinburgh: EUP, 2017).
- 21 Lila Athanasiadou, "Communication Ontology" and "Locality/Non-Separability," in *The Posthuman Glossary*, ed. Rosi Braidotti and Maria Hlavajova (London/New York: Bloomsbury, 2018), 86–88 and 235–36; Antoinette Rouvroy in conversation with Lila Athanasiadou and Goda Klumbyte, "Re-Imagining a 'We' Beyond the Gathering of Reductions: Propositions for the Three Ecologies," *Footprint 30* (Spring/Summer 2022): 121–34; Athanasiadou and Klumbyte, "Algorithmic Governmentality and Managerial Fascism," in *Deleuze and Guattari and Fascism*, ed. Rosi Braidotti and Rick Dolphijn (Edinburgh: EUP, 2023).
- 22 See also Alina da Porciuncula Paias, "The Home of the Witch," *The Funambulist* 23 (2019): 50–53; Paias, "Minas, as in Mines: A Hauntological Approach to the Site of Disaster" (MSc thesis, Delft University of Technology, 2021).
- 23 Gökhan Kodlak, "Spinoza, Heterarchical Ontology, and Affective Architecture," in *Spinoza's Philosophy of Ratio*, ed. Beth Lord (Edinburgh: EUP, 2018), 89–107; Kodlak, "From Architecture Lifeless to Architecture Alive," in *Architectures of Life and Death*, ed. Andrej Radman and Stavros Kousoulas (Latham: Rowman & Littlefield, 2021); Kodlak, "Simondon, the Question of Technology, and the Architectural Margin of Indeterminacy," *Footprint 30* (2022): 91–106.
- 24 Bruce Clarke, *Gaian Systems: Lynn Margulis, Neocybernetics, and the end of the Anthropocene* (Minneapolis: University of Minnesota Press, 2020); Clarke, "Rethinking Gaia: Stengers, Latour Margulis," *Theory, Culture, Society* 34, no. 4 (2017): 59–74; Clarke, ed., *Earth, Life, Systems: Evolution and Ecology on a Gaian Planet* (New York: Fordham University Press, 2015); Clarke, *Posthuman Metamorphosis: Narrative and Systems* (New York: Fordham University Press, 2008).
- 25 Margulis drew on autopoiesis to counter neo-darwinist visions. In this way she moved away from Varela and the notion of autopoiesis through her own research on microbes, her distinction of auto- and allopoiesis (discussed in more detail in Clarke's chapter), and especially Kozo-Polyansky's notion of symbiogenesis and respective theories of evolution. See for instance Lynn Margulis, "Symbiogenesis: A New Principle of Evolution," *Paleontological Journal* 44, no. 12 (2011): 1525–39. For a discussion, see Clarke, *Gaian Systems*, 87.
- 26 Sha Xin Wei, *Poiesis and Enchantment in Topological Matter* (Cambridge, MA: MIT Press, 2013); Sha, "Topology and Morphogenesis," *Theory, Culture and Society* 29, no. 4–5 (2012): 220–46; Sha, "Theater Without Organs: Co-Articulating Gesture and Substrate in Responsive Environments," in *Living Architecture Systems Group White Papers*, ed. Philip Beesley and Ala Roushan (Toronto: Riverside Architectural Press, 2016), 276–91.
- 27 Gilbert Simondon, *Imagination and Invention*, trans. Joe Hughes and Christophe Wall-Romana (Minneapolis: Minnesota University Press, 2022).

- 28 Agnieszka A. Wołodźko, "Ars Demones *2022* Manifesto," *Footprint 30* (Spring/Summer 2022): 135–57; Wołodźko, *Bodies within Affect: On Practicing Contaminating Matters through Bioart* (PhD diss., Leiden University, 2018); Wołodźko, "Between Bio(s) and Art: Intensities of Matter in Bioart," in *Innen – Außen – Anders: Körper im Werk von Gilles Deleuze und Michel Foucault*, ed. Ann-Cathrin Drews and Katharina D. Martin (Bielefeld: Transcript, 2017), 221–36; Wołodźko, "Materiality of Affect: How Art Can Reveal the More Subtle Realities of an Encounter," *This Deleuzian Century: Art, Activism, Life*, ed. Rosi Braidotti and Rick Dolphijn (Leiden: Brill 2014), 169–84.
- 29 E.g. John Protevi, "Geo-Hydro-Solar-Bio-Techno-Politics," in *Posthuman Glossary*, ed. Rosi Braidotti and Maria Hlavajova (London: Bloomsbury, 2018); Protevi, *Life, War, Earth: Deleuze and the Sciences* (Minneapolis: University of Minnesota Press, 2013); Protevi, *Edges of the State* (Minneapolis: University of Minnesota Press, 2019).
- 30 E.g. Marc Boumeester, "Unframing Urban Density: The Somaesthetic Cartography of Intensities," in *Rethinking Density: Art, Culture, and Urban Practices*, ed. Anamarija Batista, Szilvia Kovács, and Carina Lesky (Berlin: Sternberg Press, 2017), 42–53; Boumeester, "The Desire of The Medium" (PhD diss., Leiden University 2017); Boumeester and Andrej Radman, "The Impredicative City, or What Can a Boston Square Do?," in *Deleuze and the City*, ed. Hélène Frichot, Catharina Gabrielson, and Jonathan Metzger (Edinburgh: EUP, 2016), 46–63.

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Desperate times demand optimistic transdisciplinary measures. This volume unites a select group of thinkers who courageously traverse disciplinary boundaries. What brings them together is the least stratified 'component': a shared problem. It is a widely recognised that a problem gets the solution it merits. However, only a few acknowledge that a problem seldom neatly fits within a single discipline, nor does it conform to the principle of general equivalence. Handling its irreducibility and non-entailment is a skill possessed by very few. Even fewer take the quasi-causal capacity of what we term the 'space of technicity' seriously.

The space of technicity, the shared problem of this volume, is a consequence of immanence. Each configuration of surfaces comprising the built environment produces an intangible effect, acting as a quasi-cause. It can be referred to as downward causation or the timely rediscovery of (neo)finalism.

In this volume it is approached it from the perspective of axiology. The space of technicity allows us to evade techno-determinism without adopting an anything-goes attitude. That which has become manifest could have individuated differently. However, the potential of a body cannot be discerned before intervening in the causal fabric of agential reality to extract the singular points that make certain outcomes more likely than others, surpassing mere probability.

When operating within the ethico-aesthetic paradigm, where sense becomes intricately dependent on sensibility, and vice versa, the volume's attitude might be said to approximate the Spinozian third kind of knowledge that intuits design (and its space of technicity) beyond mere imagination or reason.