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Welcome to Renderillas and Oraxotans!

A performative repository of imagery, pictorial practices and visual culture through an architectural lens

If you want to truly experience the explorative nature of the repository I urge you to disregard the following pages and head over to: <https://pkirilov9.github.io/renderillas-and-oraxotans/>

Click, click, click, clicking away our day. Swipe, swipe, swipe, swiping away our lunch breaks. Scroll, scroll, scroll, scrolling away from each other. Pan, zoom, cut! Now make it less transparent. Actually no, undo it. Ctrl-z. One more time, one more ... maybe try a different angle. Have you heard...? The “CAD-monkey” has been replaced by the “BIM-panzee”. I find our ability to laugh at our despair quite amusing, although, this sort of self-deprecating humour is an instance worthy of research itself. However, to keep this light, I think there is still untapped potential in the comparison of the architectural worker to various [Primate](#) species. Have we forgotten about the post-production virtuosos who specialise in spectacular views on bright and sunny days, or exploded axonometric drawings that seem impossible to reassemble? How about the “render-illa”? Do you like it? Or the “or-axo-tan”? I think they are catchy, but if you have better suggestions, get back to me. More importantly, beyond letting in the “renderillas” and the “oraxotans” on the inside joke, lies the importance of a gesture which points towards a wider shift within the profession. The shift in question, or the recognition of “renderilla” and the “oraxotan” as vital actors within architectural dynamics, can be accredited to the increasing importance of visual [Representation](#), or more precisely the chokehold that affective imagery has got of [Architectural Output](#).

This interactive repository seeks to explore the obscured onto-epistemology of the [Images](#) we hold so dear, the networks that they shape, disrupt, and influence and the processes in which they are entangled.

Venture into an exploration of the myriad of links and [Exercises](#), get purposefully lost in the rabbit hole of visual culture, embrace chance along with the possibility of an unscripted interaction, and make up your own insights!

Find the full [Bibliography](#) here.

PAK

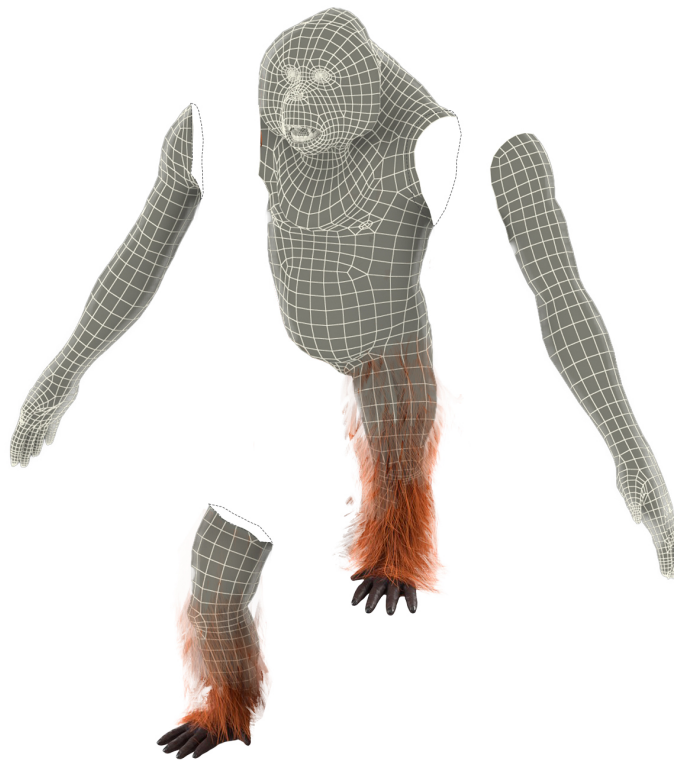


Image Source: In a typical Web2.0 manner the base for this image was downloaded from the internet and edited into what you now see.
So whose work is it? Mine or a random person who I stole it from? Do I need to reference the source?
The original images can be found at: <https://www.turbosquid.com/3d-models/male-orangutan-t-pose-fur-3d-model-1985289>

(Re)Assurance

Pictorial practices nowadays perform as coping mechanisms in situations of self-doubt when uncertainty creeps in to question the core of our decisions and presumptions as designers, threatening the futurity of our brain-child (Kousoulas 2023, 29). That is when we seek shelter in pictorial practice, it provides “stability” and assurance, presumed due to its longstanding reign as a template for rightness stemming from the tradition of the Western-centric episteme of positivist thinking obsessed with logic and control. [Representation](#) is how we cope in the face of uncertainty. When seen as steaming from a sort of fixed essence, geometric language tends towards objectivism - the ideological parody of objectivity - self-assurance, and certainty about the sovereign subject's grip on the real (Mitchell 2005, 157). In the words of Massumi (1998, 4), when architecture is seen as a language, "forms become elementary and elementary forms are “words” signifying “universal” principles of fixity" drawn from a pre-existing vocabulary. This creates a felling that architectural relations are "emanating from some essence" (Fritz 2021, 9). Presupposing the essential character of those relations and their universal validity, perpetuates architectural thought towards a state of [Ultra-stable](#) equilibrium, where, "there is no metastability, no potential for becoming, and indeed no change or history—just fixed essences"(Fritz 2021, 9). This mode of thinking exemplifies the modernist ideal that is founded on “universal”, Western-centric, abstract, truths that are the result of the long-lasting project of enlightenment. However, "drawing is not writing and architecture does not speak" (Evans 2000, xxxvi).

In a disciplinary or regulating mechanism involving the built environment, the transmission of these essences to future generations through drawing provides the continuity of knowledge (Kent Fitzsimons 2010, 16), where truth is seen as something certain and representable. This shift started with Descartes, who redefined being as something that can be objectively represented, and truth as the certainty of this representation. From that point forward, [Representation](#) stopped being about mimicking or experiencing phenomena and instead became the foundation of truth. From then on, in Western thought, representation meant creating a framework that lets us understand the world as an [Image](#), establishing humans as rational beings who can objectify the world, and simultaneously restricting our knowledge to what can be rationally represented (Rubinstein and Sluis 2013, 25-6). The long-lasting reign of representation and its unconditional valorisation, has lead to the point where, "it is impossible to imagine the potential of a human being who is not experiencing the world as a subject, for whom the world in not an image or a picture" (Dewdney 2022, 35).

Positioned in the context of the building industry, this paradigm sets certain expectation of a design, which must have already delivered reliable outcomes, in order to reach construction. At this point, its rightness, which is equated to profit, is already taken as given. In their capacity to produce quantifiable and predictable outcomes that guarantee profit in a calculable future, pictorial practices seem peculiarly well suited to facilitate the process of generating a design and to guarantee its “rightness”. People involved in construction often feel restricted

by the need to strictly adhere to the predefined parameters that guarantee economic success. Efforts to build in new ways are frequently blocked by practical and cultural barriers such as habits, risk aversion, standardization, warranties, costs, etc. Additionally, there's often a lack of willingness or ability to maintain buildings that need special care. Using non-standard materials places builders outside the usual support and regulatory systems, making them more accountable for their choices (Material cultures 2024, 16-7). Therefore, designers and builders must be willing to take on even more responsibility and risk. Carson Fritz (2021, 26) suggest that this conditions an environment in which "every invention or artistic endeavour to be predictably saleable as a commodity which results in profound limitations on the possibility of artistic or technological experimentation since every creation is yoked in advance to the 'form-intention' of profit." Any deviation from the prescribed formulas for success are seen as unnecessary risks, leaving only the safest bets as possible options. These typically involve the [Recycling](#) of themes and [Precedents](#) that have proven their success. The consequence is an increasingly self-absorbed and [Self-referential](#) practice. The anxious state and over-concern with liability confines architectural practice inside a "proprietary fortress" (Material cultures. 2024, 66), where necessary maintenance and repairs are considered signs of failure. This generates a culture where architects no longer design with materials but rather with packaged, proprietary products only to strengthen the hold of commodification over the building industry.

A-Signifying Semiotics

In a Deleuzian sense, the a-signifying sign operates through percepts and affects rather than through a system of [Representation](#). This approach aligns with the concept of operational images, which highlights the significant yet often unnoticed power of images in organizing and structuring our world (Hoel 2021, 121) and establish our sense of [Contemporaneity](#). Similarly, Harun Farocki's work on operational images focuses not on what these images mean but on their role within technical processes and institutional power structures. Farocki shows us that in contemporary capitalism, the relationship between images and power should not be confined to the realm of representation and ideology. Instead, a-signifying images maintain power relations through their organizational nature, implicit in the [Technological Substructures](#) that support them. Therefore, the critical question is "not what an image represents, but what function it serves within a social machine" (Celis Bueno 2017).

Applying this to architecture, we should consider the operational character of architectural representation to understand how it functions and what it accomplishes. This operational perspective promotes dynamic approaches that analyze phenomena as actions and events rather than static entities. (Hoel and Lindseth 2016, 178). The question shifts from "What is representation?" and "What constitutes representation?", to "What representation does?". How do the everyday practices of architecture manipulate and distribute [Affect](#)? What [Abstractions](#) condition architectural production? Is there an underlying [Complicity](#) to processes such as the [Industrialisation of the Symbolic](#)? Following Aurora Hoel, in order to understand the power of the operational character of images, that an a-signifying lens makes visible, we have to approach images as "dual-purpose apparatuses" both as material tools and theoretical constructs (Hoel 2021, 121).

Abstraction

Abstraction is the process of separating a concept from the sensible reality in which it is embedded. Therefore they are not universal, or timeless. They are created by the human mind, however, in order this process to happen an external stimuli is required. In other words, abstractions are contingent on the external social and political condition them (Aurieli 2023, viii-ix).

From a design perspective, both notational and affective output serve as a tool of abstraction, distancing labourers from the active design process, and thereby providing the necessary distance in production which allowed for the conception of the figure of the architect and therefore architecture as a profession. Initially, this abstraction through drawing played a role only in building production. However the throughout centuries it found its way up, eventually extending to large-scale city and territory planning, which require the reduction of tangible reality into measurable units, using tools like cartography, statistics, and building codes to transform lived experiences into quantifiable data (Aurieli 2023, 86). The creation and functioning of the physical structures of the city are highly dependent on numerous abstractions, including design methods, representational conventions, proportions, functions, building codes, measurements, and financial parameters. In this context, trying to separate the "concrete" from the "abstract" is nearly meaningless, as they are so deeply intertwined within capitalism that abstraction becomes concrete, and the concrete always represents some form of abstraction (Aurieli 2018). Ultimately, abstraction arises not only from technocratic organization but also from the dominance of exchange value, subjecting everything to a system of representation that enables quantification and profit calculation (Aurieli 2023, xvi).

In [Contemporary Architectural Labour](#) the abstractions that govern the politics of production and distribution of architectural knowledge and output are tucked under layers and layers of bureaucratic, technical, cultural, and practical circumstances that we take as a given. Many of them appear to be obscured, hidden, forgotten, or impossible to understand. An appropriate example are CAD and BIM softwares, which are the concoction of an extreme amount of functional abstractions, that paradoxically enable an almost perfect structural simulacra of the designed object, or its surroundings (Allen and Agrest 2000, 176). It follows that the material processes that are propelled by the realisation of a design proposal are conditioned by an abstracted version of reality, which is in turn dependent on completely different technological abstractions that make it possible, which are in turn a result of the abstractions that enable the extraction and transportation of goods, which are in turn dependent on the abstraction of exchange value, which is dependent on ... and so on, and so on.

What is lost in this serial process of abstraction is precisely its contingency on the environments that necessitate it. Fundamentally abstraction is the process of the a-posteriori becoming a-priori. As Frichot (2019, 110) points out, "Abstraction, according to this definition, comes after, and not before, an experience-based engagement amidst an environment-

world. Great care needs to be taken in this process lest everything is lost and nothing is learnt, like a designer who deploys a paltry metaphor for a project that gets him nowhere." Here lies the danger of blindly taking for granted the conditions in which we produce, without questioning their formation. Unfortunately, lost in the sea of abstractions, we have become accustomed to the idea of disembodied production. The chain of material extraction, transportation, manufacturing, and implementation on site, along with the hundreds of hours in human labour, is reduced to the simple action of product specification from the comfort of an office chair (Material cultures, 2024,40).

Affect

Although lacking a clear understating of how images circulate and perform, one thing that architects are very well aware of is the affective potential of [Representational](#) techniques and their capacity to perform as visual forms of rhetoric, both of which they have used and abused plenty. At this point, it would be useful to clearly define what is affect. Claire Colebrook gives a very succinct account, affect is different from affection, “an affect is that which would be felt,” (Boumestteer, 2019, 70) or as in the words of Deleuze himself, “affect becomes sensation, sentiment, emotion, or even impulse” (Deleuze, 1997, 97.) It is exactly this emotional affect that architects seek and are very skilled at enabling through sophisticated pictorial techniques. Hence, the apt observation made by Fichot (2014, 66) that as architects “we are disciplined to be affective labourers.” She goes on to explain that in the context of the explicitly hierarchal power dynamics within educational facilities architects-to-be are in a situation where they are expected to produce “aesthetic responses to ready-made problems with predetermined answers,” making it a clear example of the application of a [Dogmatic Image of Thought](#) and the [\(Re\)Assurance](#) of its perpetuation. The signs are evident - avoiding errors, sticking to what is already known and discarding that which does not comply as wrong. Students are quick to learn that affective images can secure the approval of a critic or a tutor and this attitude is transferred into the professional sphere where the target of approval is simply redirected to clients, and current or future employers. The affective [Image](#) becomes a right of passage to the next stage of the architect’s career, it acts as proof of the necessary skillset that is required to put to work the power of affect.

Perhaps the most celebrated example of affective imagery is the atmospheric render - the Renderilla’s area of expertise. It is what Deleuze described early on (much earlier than the post-production revolution in architecture) in his book “Cinema 1: The Movement-Image” as “[Any-space-whatsoever](#)”.

Alienation

The Simondonian notion finds its initial cause in reductive mental forms such as [Hylomorphic Schemas](#) - when an abstract form is imposed on seemingly passive and inert matter - which is often a starting point for many architects and is deemed traditional within the practice. The [Self-referential](#) and rigid nature of representational practice, embedded in standard architectural tools and techniques, limits its capacity to capture the complexity of the design process, excluding conflicting demands, legal constraints, budgeting, and other critical aspects. This practice of opportunistic sifting distances the representational output from its associated milieu, which becomes problematic because it limits the possible formation of new relations and actively forecloses alternative futures, further perpetuating the myth of the architect as an autonomous creative agent and overshadowing the interconnected and complex realities of architectural practice.

Distance emerges as the link between representation and alienation. The former is only effective if there is distance, segregation, a physical or temporal gap between the experiential register and its communication with others, the latter thrives on it. Distance here can be interpreted both as the physical discrepancy between the architect and the site in question or as the segregation of labour and the allocation of functions to different agents in the sphere of the built environment. Showing all the alarming symptoms of alienation, the flattening of chosen characteristics of a physical site into an intelligible diagram creates a curated version of reality, which is prioritised over the physical site due to its pliability from a distance. The danger here lies in the displacement of physical space with its representational counterpart and presuming that the two are interchangeable. The victims of such pitfall intervene in the sterilised representational simulacrum, which is artificially closed off from outside contingent forces, and unable to absorb any difference other than that which the architect itself deems appropriate, assuming that this intervention will translate seamlessly into its “interchangeable” counterpart. When actualised, architectural objects inherit the rigid, artificially enclosed nature of their production and remain incapable of accommodating the contingent nature of their situated milieu. It follows that the closed system of representation exacerbates the alienated state of [Contemporary Architectural Labour](#), hindering its ability to engage with real-world challenges.

In a [Post-orthographic](#) context, image production became the principal mode of [Architectural Output](#) and it brought with it a very complex modernist heritage that still heavily influences the profession. The isolated mode of production, the tabula rasa, the veneration of [Abstraction](#), and architecture as a language that can communicate “universal values and laws” and provide the necessary [\(Re\)Assurance](#) are deeply embedded in the representational techniques and tools that we apply and are visible everywhere today, albeit in a mutated state due to their coupling with contemporary forms of capital extraction. The result is disconnected and desensitised subjects that remain shortsighted not only to the processes that shape their output but also to the wider implications of their work. I also want to make some-

thing clear, I am not against conventions and recognise their importance, however, I am against accepting them as universal because we seem to have forgotten that they are also a product of collective agreement and therefore subject to change.

I find it necessary to trace the thread of alienation, and therefore invite you on a short detour where we can investigate how it has resulted in the fortification of a [Dogmatic Image of Thought](#) and the confinement of the architectural profession. The first is concerned with the enclosed, [Self-referential](#) and [Ultra-stable](#) nature of representational systems, while the second is concerned with the obscured influence of the [Technological Substructures](#) that condition the production and circulation of our work and our inability to understand the [Reciprocity](#) between the tools we use and their influence on how we understand our surroundings.

Through a lengthy process of division of labour and adherence to economic regimes, architects have distanced themselves from processes such as building regulations, material availability, socio-political issues etc., that condition the design process long before a brief arrives at their desk. Often literally isolated from our associated milieu we continue to search for “solutions” to problems posed by fluctuating, open systems while employing rigid, [Hylomorphic Schemas](#), and linear means of design ([Linear Perspective](#)).

Both categories of alienation - the [Ultra-stable](#), [Self-referential](#), systems and the [Reciprocity](#) of the [Technological Substructures](#) - have played their part in the constitution of some very persistent and widespread conceptions of the role of the architect. They have valorised form-finding exercises that are often combined with partly metaphors to legitimise design (Frichot, 2019, 108). All the while, as Antoine Picone (2004, 13) points out, the whole design process remains contained “in the head of the architect”, who nevertheless claims the output to be of public service, which fundamentally contradicts its isolated conception. All of that is visible in the popular description of the heroic figure of the architect as an “autonomous creative agent” in the words of Massumi (1998, 3), whose elevated and inspired vision is capable of moulding abstract architectural objects and “artfully dropping” them into the environment, thereby improving it. However, as both Massumi and Guattari demystify such conceptions, what we are left with is the figure of the Architect-[Primate](#), alienated from its surroundings and the modes of production that govern its work, which remains self-contained and short-sighted, its gaze only reaching what is right in front of it - a screen, a toolbox ... an image.

Following the issues observed in the previous sections, [Representation](#) emerges as the meeting point of an immense amount of architectural issues that are manifested in pictorial practices, whose behaviour and modes of production we fail to grasp, ultimately resulting in alienation. The question remains, how to battle this condition? The first step is to recognise that in its commercial, contemporary incarnation, architecture is predominantly occupied with image production. However, the next step, which is more of an expedition, is to begin grappling with image ontology and epistemology, understanding its inherent qualities and processes that shape it. Finally, this begs the question, “What is an [Image](#)?”

Any-space-whatsoever

An “any-space-whatsoever” is no longer particularly determined with fixed coordinates but is constructed to best fit the requirements of the pursued [Affect](#) (Deleuze, 1997, 109). This type of [Representation](#) finds common use in what Hal Foster calls “image building”, or when architects are hired to produce eye-catching yet servile and appeasing architecture (Oxvig, 2019, 174). It also adheres to the principles of the problematics appropriation of “frontal ontology”. The term introduced by David Michael Levin describes the tendency, which is also embedded in traditional [Signifying Semiotics](#), to contain experience to the decoding of messages, which are supposedly engrained within the contents of the visual. When translated to the built environment and the architectural object becomes a subject of decoding, we no longer experience space but become mere spectators of it (Pallasmaa, 2012, 33). Here we can draw a clear connection to what Baudrillard calls “hyper-reality” - the representation of the object becomes more important than the object itself, ultimately resulting in an sphere-wide [Image-Object Fixation](#). In the case of the atmospheric render, space is no longer represented as it is, but it becomes space as we can make it. The render, or “the money shot” as Frichot (2014, 169) refers to it, is a carefully curated, privileged point of view that highlights the potentialities of space. As such, it is also a child of [Alienation](#), because as Deleuze points out (1997, 120), the “any-spaces-whatever” are spaces of pure potential, they are independent, distanced and uninterested in “the state of things or milieux which actualise them.”

Architectural Output

There is a visible division between the two general types of architectural output that comprise a project - notational and [Affective](#) - and their corresponding [Primates](#). The notational - comprised of plans, sections, details, material specifications etc. - falls within the realm of the "CAD-monkey" and the "BIM-panzee", while the affective - comprised of atmospheric renders, collages, perspective sections, exploded axonometrics etc. - is taken upon by the "Renderillas" and "Oraxotans". The former type takes the form of a notational device whose aim is to secure the proper execution of architectural thought and is primarily accessible only to those literate in architectural notation. For that reason, it mainly circulates between professionals within the built environment. The latter is aimed at affective communication with a wider range of recipients, including professionals within the sphere and the larger public such as clients, governmental bodies, or anyone willing to look at it. Therefore, it focuses on the evocation of emotional responses (i.e. desires, sensations, arousals). One should of course be able to swap between the roles of the different species, or perform a symbolic inter-specie evolution if you will, to be recognised as a complex and well-rounded designer, therefore being able to attend both the notational and the affective.

While we may attribute the meteoric rise of the affective [Image](#), or the [Any-space-whatsoever](#), to the proliferation of post-production softwares and their increasing compatibility with contemporary architectural tools, it would be diminutive to disregard the impact of technology when it comes to notational images. In his essay "Everything is Already an Image" John May makes the compelling argument that we are way past orthographic production, and in fact producing in a [Post-orthographic](#). The traces of this shift are evident in the [Reciprocity](#) between the proliferation of architectural imagery and the apparatuses that enable them and how they inform each others evolution.

To emerge as a concept, the architectural project required the opening of a gap between the planning and execution of architectural thought. This was secured by the [Abstraction](#) of physical space, its [Quantification and Operationalisation](#), and recording in the form of orthographic drawing. Orthogonality ensured design precision and was therefore secured the "architect's authorship of architecture" (Aurieli 2023, 48). The "heightened abstraction of drawing" divided the intellectual and manual aspects of architecture, originating a design mentality rooted in geometry and mathematics (Aurieli 2023, 50). Endowed with newly-found objectivity and reason, this new form of architectural rhetoric became a new way of seeing the world through a projective lens. Therefore, as Pier Vittorio Aurieli puts it, "The capacity to plan (organise large masses of workers and mobile resources) became architecture's political precondition" (Aurieli 2023, 2). Fast forward to nowadays, where, in the context of [Contemporary Architectural Labour](#), the jurisdiction of the architect has been strictly confined

to the project, which in its abstractive capacity is able to reduce reality "to the exactitude of measure, geometry, and later the relentless quantifying logic of money" (Aurieli 2023, xxi).

Archive

Images, including architectural representation, are a form of [Mnemotechnics](#), and therefore, adhere to the ontological principles of archives outlined by Foucault and Derrida. Following this line of thought, archives, although exclusively preoccupied with the past and its preservation, are oriented towards the ordering of the future (Eisner 2013, 135). The ways we choose to remember and the things we choose to remember, condition the structure of the archive, which in turn informs what is rememberable and vice versa. This reciprocal relationship is largely informative of the social unconscious and influences how we perceive, understand, and construct ourselves today, and how we might project ourselves in the future. Transcending mere accounting, archival practice becomes formative of the parameters and guidelines of perception. An example close to home is the notion of measurement, which produces not only a way to physically assess a phenomenon but also yields a novel manner to understand and relate to our surroundings. Similarly, technics such as [Linear Perspective](#), isometric projections, sketching, rendering, collaging etc. can be understood as archival practices that delimit perception and carry over the implications that conditioned their conception.

Being an [Ultra-stable](#), closed, and [Self-referential](#) system, architectural [Representation](#) remembers and is remembered exclusively through a defined range of practices that have gained a canonical status. In its inability to allow for difference within its system, representation is reliant only on what can be recognised and what can be made intelligible through the already established modes of production. Consequently, a large portion of the practices that cannot be presented through the recognised pictorial practices remain obscured. For example, "Supply chains champion end products. The bodies, systems and ecosystems that produce materials on which the defendant continues to be overlooked misrepresented or erased" (Material culture 2024, 41-3). Given all of this, that mode of remembrance is similar to the prevalent institutionalised mode of archiving, where the archive is continuously safeguarded, sanitised, polished and able to present only a very particular version of the truth. Architectural [Imagery](#), in its conservative archival form that is responsible for transmitting knowledge, embodies the incredibly opportunistic mindset that has celebrated [Abstraction](#) and its embodiment as an architectural object, while systematically excluding alternative modes of recording which are capable of [Elucidating](#) networks of production and other modes of doing. Furthermore, the archival moment in architectural production traditionally takes place before the execution. Architectural technics are deployed before the moment of production shaping the outcome without allowing evidence that accumulates during production to shape it back in turn (Frichot 2019, 110). Additionally, none of the [Second-Order Effects](#) that will later on leave their mark on the "finished products" can be recorded, or acknowledged. In such systems, "abstract and quantifiable systems of knowledge are privileged over embodied knowledge or inherited knowledge, and all systems in effect that can-

not easily be measured by current technologies remain outside the field of concern" (Material cultures 2024, 73).

Complicity

Within a capitalist mode of [Post-orthographic](#) production, where any creative gesture is subject to [Quantification and Operationalisation](#), everything is measured by its ability to be shown and therefore capitalised on. What is seen as profitable is often conditioned by the information (images) that already circulate in our environment. Hence, capital gain is related to the repetition of [Precedents](#) which have proven to be successful. In this system, experimentation, whether artistic or technological, is seen as a risk. As Carol Fritz (2021, 26-7) points out in his essay "Alienation Beyond the Human", in a state of [Alienation](#), the potential for novelty is smothered and futures are foreclosed. When "every invention or artistic endeavour must be predictably saleable as a commodity", any sort of intervention will necessarily adhere to the dogmatic governing forces preventing the possibility of imaging of alternative futures. It is not a clearly defined utopian and egalitarian future that is at stake, because, as Fritz (2021, 27) reminds us, "It is not so much that becoming is inherently good, but rather that the obstruction of becoming is generally unhealthy or dangerous."

In the fast-paced and ultra-connected context of contemporary media, H el ene Frichot identifies the production of architectural imagery as a gullible practice that somewhat unknowingly lends itself to neoliberal ends of market capitalism. In her own words, the affective labour of images operate in a reciprocal, disjunctive relation with the concepts and discursive statements architects enunciate, producing a disciplinary-wide [Dogmatic Image of Thought](#)" (Frichot 2014, 163). For example, images hold the power to raise land and property prices, promoting practices of homogenisation and gentrification, that make neighbourhoods increasingly inaccessible for some who have lived there for years. Homogenising practices are not only responsible for the displacement of people but also for the loss of locality and its intricacies. In their capacity to inform global trends through the formation of [Visual Bonds](#), images can inspire a desire for a certain look that designers have seen circulating in various [Media](#). This designerly whim however, is dependent on the import and over-extraction of materials causing lasting environmental impacts, which remains in the [Out-of-field](#) of [Representational](#) practices.

In his book "Architecture and [Abstraction](#)", Pier Vittorio Aurieli identifies the work of Jean-Nicolas-Louis Durand as a turning point in architectural production which set the ground for its commodification. Durand's understanding was that at its heart, architecture is meant to serve an economy of means, making the most out of limited resources. In his work "Precis of the Lectures of Architecture" he decomposes architectural structures to their founding elements - walls, openings, columns, etc. - and approaches them as independently deployable singularities that can be configured in an array of different ways in order to conform to the programmatic requirements of a building (Aurieli 2023, 76). Symmetry was no longer the antique aspiration for beauty and harmony, but rather a way to accelerate design and facilitate construction processes (2023, 81). What followed from the deconstruction of architecture to its constituent elements was the "deskilling of design", where subjected to economical viabil-

ity it became a means for mass production, in a context where "professionals have to design architecture in great quantities" (2023, 81). Fast forward to [Contemporary Architectural Labour](#) and one can observe those same processes, albeit massively inflated. In the process of the [Industrialisation of the Symbolic](#), the imagistic practices that architects valorise are mobilised to feed the "cash cow" that is the building industry.

Contemporaneity

The definition of contemporaneity which I will follow is laid out in the book "The Contemporary Condition" by Geoff Cox and Jacob Lund. The authors argue that contemporaneity represents a condition where multiple times coexist, creating a unique historical moment. This coexistence challenges linear perceptions of history and embraces a more layered and interconnected understanding of time. Contemporaneity is characterised by the overlapping of different temporalities, allowing for a more nuanced engagement with the present. This "planetary instantaneity in which everyone and everything takes part" (Cox and Lund 2016, 2), or 'pseudo-co-presence', is enabled by spatiotemporal compression, of the Internet and new [Media](#) platforms.

With the advent of "real time"- the immediate processing and response to events as they occur- a generalised sharing of time is established. This is facilitated by the mutual relation to the same images or symbols that is established through their communal sharing in media. The result is the production of [Visual Bonds](#) which become a corner-stone for planetary scale of transindividuation.

Contemporary Architectural Labour

In his book "Architecture and Abstraction", Pier Vittorio Aurieli (2023) provides a succinct account of contemporary architectural labour, which is exclusively defined by the limits of the project, whereas the rest is distributed, delegated, or subcontracted to other professional roles within the building industry. Contrary to common belief, the reason for this division of labour is not the increase of use value due to the cooperation of different experts. Rather, it is the realisation that, the more divided one service is, the more possibilities there are for the extraction of profit, "Hence every aspect of architecture, from design to construction, is fertile ground for surplus extraction" (Aurieli 2023, 254).

The [Abstractions](#) that govern architectural production are so intricate and widespread that they surpass the traditional planning and drawing processes, which were originally the primary forms of abstraction in architecture. Ironically, the division of labor that once separated intellectual work from manual labor, proletarianising the builder, is now doing the same to the architect. As a result, "[Architectural Output](#) is reduced to the provision of artistic veneer behind which lies a complex conglomerate of financial and technical mechanisms" (Aurieli 2023, 255), while architects act as mere functionaries in a game over which they have no competence or control.

Take for example the advent computational design, which has further reshaped architectural labor, and in its extreme form, what is called "parametric design", limits architecture to strict patterning controlled by algebraic parameters, often devoid of human logic, or perception (Aurieli 2023,247). Moreover, in thoroughly reciprocal manner ([Reciprocity](#)) architects' lives are increasingly shaped by software ecosystems and applications, with common workflows and technical rationales defining the affordances of their labor (Warburton 2022, 114-7). These affordances condition what Frichot (2019, 153) calls "immaterial" or "cognitive" labour - "labour which produces the informational and cultural content of a commodity, and which is dedicated to fixing aesthetic norms, tastes, fashions, consumer norms and thence opinion." This standardisation can be seen as the gentrification of virtual worlds, where architectural images circulate much like advertising imagery, contributing to the homogenisation of online platforms (Warburton 2022, 127). Architects' socio-technical work becomes entwined with the evolution of [Media](#), serving to reproduce formal and social standards within virtual spaces.

Dogmatic Image of Thought

First introduced by Nietzsche, Hélène Frichot (2019, 165) explains that an image of thought is constructed when in serial formation and through hegemonic repetition, [Images](#) begin to shape values, prejudices, taste, principles, “ultimate” truths etc. informed by normative standards, further ingraining them at an unconscious level. Therefore, an image of thought actively shapes both personal and collective subjectivity, informing and regulating the processes of subjectification. Put simply, images trigger mimetic desires, they spread values by way of mundane representation and in serial formation these images begin to give rise to an insidious image of thought which organises how we “think unreflectively, by way of habit, opinion and cliché” (Frichot 2016, 176).

In his elaboration on the Nietzschean notion, Deleuze lays eight postulates that form the dogmatic image of thought, the fourth one being “[Representation](#).” As such it is aligned with the modes of thinking that produce the dogmatic image of thought, which adhere to the conception that error must be avoided because it is opposed to the “universal truths” that have been installed based on a priori determination of “common sense” and what is “true”, therefore installing a sense of [\(Re\)Assurance](#) (Brown, 2005, 33). Both Deleuze and Nietzsche take on this issue, not with the “creation” of this metaphysical framework, but with the fact that we have forgotten that it is indeed a creation, a fable, a result of the active, productive powers of thought. We have forgotten that the postulates of this image of thought are a collective interpretation. These postulates have been enshrined as absolute truths, and the dogmatic faith in truth as the ultimate value has replaced and suppressed the active forces in thought. This effectively renders thought reactive and relegates it to the sole function of comparing the information it receives to what has already been established as “truth” and discarding that which does not. Representation is informed by recognition (the third postulate), which makes them dependent on each other, especially in the formation of an image of thought - the former represents and, therefore, fortifies that which has already been recognised (Brown, 2005, 36). From here we can clearly see how this upholds the tradition of the [Precedent](#) in architectural circles and the [Recycling](#) of previously successful themes and motifs. Hence, in the words of Deleuze, “the world of representation is characterised by its inability to conceive of different in itself” (Deleuze “Difference and Repetition”, 1994, 138) Preoccupied with the model of recognition it suffocates any deviation from the established norm.

The dogmatic image of thought that architectural representation helps shape is actively constitutive of the [Alienation](#) between architects and their output because it distances them from the environments in which they claim to be invested. Rather, they remain absorbed in the continual recognition and strengthening of prescribed modes of production, remaining exclusively involved with architecture’s own problems. If I could add one thing to what Deleuze has already lined out as the consequences of a dogmatic image of thought, it would be the state of thought itself. He sees thought under dogmatic circumstances as sedimentary and

immobile, however, to me it resembles more of an inwards spiral, continuously closing in on itself, further strengthening its own beliefs, and reaching new extremes of authoritarian control. The silver lining being, that as the cycles grow smaller and smaller such a system is bound to collapse in on itself. Have reached that point yet?

Elucidating

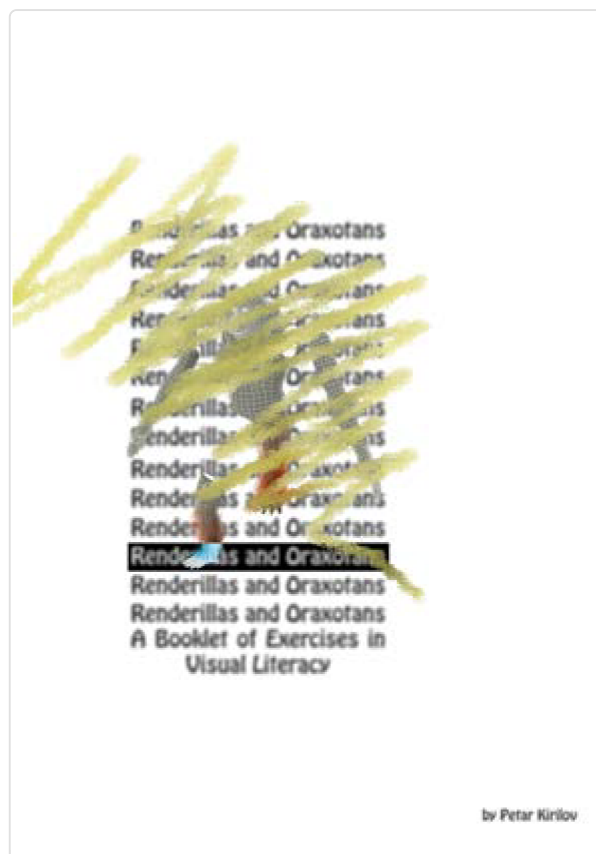
What I mean by elucidating is the search for a type of montage that produces something outside of itself, something that belongs to a different order and requires frames of reference that might be unfamiliar to architecture. Inspired by Aurora Hoel's notions of "amplified visual systems" that see more and see differently, my goal is not to produce something that imitates what is already visible, but rather make visible and in the process open up new sensibilities (Hoel 2021, 122). However, this seems like a monumental task, and new ways of seeing require new forms of literacy to understand the hidden realm of algorithms and database structures used in computer vision (Cox 2022, 108). This involves developing a co-constituted literacy that is sensitive to relational operations, shifting focus from merely acquiring technical skills to exploring new aesthetic practices. Such literacy aims to reveal the politics of invisibility and envision other potentials (Cox 2022, 111). The point would then be to come up with ways to institute new, either more evolved regimes of visibility, or ones that work in a different modality and make intelligible that which evades common [Representation](#) and remains in its [Out-of-field](#) (Hoel 2020, 295).

My approach to this task takes the form of [Exercises](#) because they re-situate the archival capacities of representation by opening it up to the contingent forces that the concept of [Hosting](#) is capable of accommodating by allowing for [Performative](#) action to take place within a [Set](#).

Exercises

I created a “Booklet of Exercises in Visual Literacy,” which expands on the notion of [Elucidating](#) by engaging in practices of seeing more and seeing differently. The exercises resemble primary school experiential learning and emphasise tacit, minor knowledge. Embodying the [Performative](#) spirit, I see them as a distinctive form of [Hosting](#) in the sense that they set up the context for an event to play out, allowing for the contingency of the surroundings to influence the outcomes instead of preemptively disclosing them beforehand.

"Using the content of images to develop forms of critical legibility through which the operations of the network become clearer to humans and thus build the knowledge of systems that enable them to be disrupted and undermined" (Burbridge 2022, 647).



Hosting

Here I want to emphasise the importance of hosting as an alternative form of archiving ([Archive](#)). Unlike recording or representing, hosting is capable of encompassing the entirety of an event, therefore it is not necessary to rely on representational forms of knowledge transmission, on the contrary, it can activate non-representational modes of learning which happen through doing. The point is to emphasise tacit, minor knowledge. Ultimately, the goal of "hosting" is to propose an alternative to the traditional form of archiving which is focused solely on archived materials, while this approach transforms them into actions that can be performed and focuses on their "practical, 'performing' availability" (Kacunko 2013, 2). I understand that one will never be able to represent an event completely or re-live it as it was. This is neither possible nor desirable. Mediation is, therefore, "not about matching realities (resemblance), it is about initiating new ones—new operational realities, new configurations of possible actions" (Hoel 2022, 21). If we break with representational thinking, one can focus on coming up with [Performative](#) practices that model relations and the processes, not structures and final outputs. To illustrate this idea, try to draw a fish as a line of its movements. Instead of focusing on what it looks like - the static, stable, and completed - animate its doings, goings, and becomings (Vannini 2020, 15). This approach not only shares knowledge about the matter at hand but also elaborates on the underlying processes. The archive's traditionally stable and enduring nature is now replaced by constant reconfiguration. The constantly shifting relations that this approach embraces results in the creation of new links between them (Pierce 2021, 6), and therefore the potential for novel encounters.

"We need a history that does not save in any sense of the word", we need histories that perform and can be performed" (Clarke 2013, 379).

The way I approached this task was by compiling a set of [Exercises](#) that aim to "host" the processes that are involved in the production of architectural imagery and make them sensible. I see those Exercises as a distinctive form of [Sets](#) in the sense that they set up the context for an event to play out. They provide the necessary conditions for things to happen, however, unlike common representational techniques, they involve the [Performative](#) processes and make them legible or perhaps palpable. Therefore, the archival entities are no longer regarded as static, unchangeable objects, but processes that "incorporate the processual dynamics" of the performative and make them "accessible as re-usable data" (Hoth 2019, 153). Exercises hold the capacity to reengage subjects, they require interaction and through it aim to produce new forms of literacy which can enable critical thought. Those actions actively battle [Alienation](#) and reintroduce a sense of engagement.

Hylomorphic Schemas

The ways in which our contemporary tools strengthen the [Dogmatic Image of Thought](#), and therefore aggravate [Alienation](#), become even more explicit in the platforms we use to shape our fantasies. A quick look at the interface of any industry-standard software, be it ArchiCAD, Revit, Rhino, Adobe derivatives, etc, will reveal a common pre-programmed preset of available geometric variations ready to be unleashed on a blank, or sometimes gridded, white sheet. This conditions the beginning of every project, the inhibition of any idea, based on predetermined ideas of abstracted, isolated, Cartesian space. It becomes a gridded canvas which offers itself to the expression of the designer's wildest ideas, which, however, can only be expressed with the already available geometric presets. Inevitably, in such conditions, any designerly thought becomes a Cartesian given (Jacob, 2017). The stamps of hylomorphic thinking are evident all over the "blank pages" of digital tools. Although they may seem infinite, the possibilities that lay inside modelling softwares are nevertheless calculable and more importantly predictable, as Frei Otto says, "The computer can only calculate what is already inside of it [...] new inventions cannot arise from it; you only get what you have already placed inside it" (Songel, 2010, 38-40). This only proves Robin Evans' statement that "architects do not produce geometry, they consume it" (Evans, 2000, p.xxvi). There is a clear correlation between the emphasis placed on geometry and the architects' obsession with form and form-finding exercises facilitated by our design tools. Geometry gives rise to form, which, as Brian Massumi (1998, p.3) underlines in his essay "Sensing the Virtual, Building the Insensible", is traditionally regarded as the "origin and telos" of architecture, both its raw material and final output, essentially "bracketing" design. This bracketing was justified by the claim that form, and geometry as its building blocks, can communicate to a wider public and the provided a sense [\(Re\)Assurance](#) when doubts creep in. An architectural language, made up of lines, circles, rectangles, and curves was composed, whose "words" supposedly signified universal principles, conditioned an [Image-Object Fixation](#). However, once again, as Robin Evans brilliantly puts it, "drawing is not writing and architecture does not speak" (Evans, 2000, p.xxxvi). Given Evans' sweeping critique, one can only denounce the remnants of modernist ideologies that proclaim architecture as language which are still irritatingly present. Why then do we still find them in every "toolbox" of every design-oriented software, imposing hylomorphic schemas as a given? We might begin to trace the answer to this question to the worship of the [Linear Perspective](#) that has been formative for architectural discourse in the past few centuries as we still feel the consequences of its persistence.

The problem with the exclusive application of hylomorphic schemas is that such rigid, stable methods of representation cannot account for social, environmental, political, personal, or legislative forces and generally cannot encompass the design process. This opens up an irreconcilable gap between the opportunities and obligations of architecture's environmental and political contingencies – characterised by inherently dynamic and open systems – and the linear and static means architects continue to use to design (Moe 2019, 120).

Furthermore, the unquestioned persistence of the Cartesian organisation has instilled a false sense of stability in the project of architecture (Moe 2019, 121), effectively freezing it in time and isolating it from any external to the design process forces:

"When you hold a hammer, everything looks like a nail. When you only design in a Cartesian frame of reference, architecture falsely appears as an object with apparent properties of simple location, seemingly more autonomous than it is in reality" (Moe 2019, 121).

Object-oriented softwares, such as CAD and BIM, are the necessary and practical facilitation of the real we need to make it conform to our needs, however, they prioritise the supposed autonomy of the project which is evident in the orthogonal grids and "blank" white workspace. They merely outline or highlight space and objects rather than understand their interlinkages (Grosz 2003, 83-4). Similarly, "maps represent a static two-dimensional idea of reality that is unable to accommodate change" (Zones Urbaines Sensibles 2019, 308). By accepting representation as a sole mode of production, 'we make it impossible to imagine the potential of a human being who is not experiencing the world as a subject, for whom the world is not an image or a picture (Dewdney 2022, 35).

Image-Object Fixation

The fixation on form and sign as language is closely related to the fixation on [Images](#) that architects often idolise. The pristine plan, section, or perspective view can be an object of intense admiration and reverie. When combined with the rigid, immobile slice of time that [Linear Perspective](#) provides, the disproportionate amount of time and effort concentrated on curating a [Set](#) or an [Any-space-whatsoever](#) gives rise to what has been observed as the continual fetishisation of the fixed architectural object. The image/object fixation can be traced back to our own fixation as designers to protect our ideas from being altered in the process of realisation which are evident in the [Architectural Output](#) that constitutes the architectural project. Furthermore, this can be accredited to our delusions for grandeur and stardom dating back to the idolisation of the persona of the architect and more recently the “star-architect”, as well as to educational practices within universities that emphasise individual production and physical outcomes, often in the form of images. The images we produce are equated to our input to the final result, therefore the likeness of the images produced during the project phase to the actual built edifice results in gratification, acknowledging that our vision has persevered through this lengthy process and with it the little agency that has left in the hands of the architect. This condition of “guarding the vision at all costs” is a consequence of the alienating practices ([Alienation](#)) that fortify a [Dogmatic Image of Thought](#). Making their way into the [Post-orthographic](#) mode of production, these problematic tendencies have given rise to what Bruno Latour describes as the phenomenon of “object-oriented softwares” (Frichot, 2019, 98) such as CAD and BIM. This phenomenon further aggravates the obsessive behaviour of design professionals, however, the irony of this protectionism is evident in the words of Felix Guattari:

“The object of architecture has been smashed to pieces. It is useless to hold on to what it was or what it ought to be! Situated at the intersection of political stakes of the first importance, of democratic and ethnic tensions, of economic, social and regional antagonisms that are nowhere near resolved, spurred on by constant technological and industrial mutations, it is irreversibly condemned to being dragged and pulled in every direction.” (Guattari, 1989, 1-2)

Given Guattari's position, the obsession with the perpetuation of our design fantasies seem pointless and highlights the disillusionment with the reality of the profession that many young architects experience upon entering the field. Once the realisation, that architecture has a limited and ever more diminishing effect on political and social issues in a context ruled by exchange value, sets in, architects often compensate for this lack of agency by placing a disproportionate amount of importance on the architectural object, given that they are incapable to influence the processes that govern its condition. This feeling of helplessness is partly a result of the educational systems that place importance on finished products. We are trained to produce objects, which as Guattari points out are “useless to hold onto”, however what we need is a different repository of skillsets that can analyse and engage with processes. As

Massumi puts it we should aim to produce "architecture as a gift of product for process", where "the sign-form fundamentally means nothing" and "is meant to stand at the threshold between processes." (Massumi 1998, 19) My approach to this challenge is by following the path of the [Performative](#), which prioritises actions and doing over results and objects .

Image

In his essay “Everything is Already an Image” John May (2012, 20) argues that with the introduction of digital technology, we have surpassed orthography, and produce in a [Post-orthographic](#) regime. In this radically different mode of production, the term “drawing”, now replaced by “image”, is only a remnant from an orthographic past, a signpost of familiarity, a vital element of comprehension, that helps us cope in the face of unfamiliar conditions, that is our technical milieu. As practitioners, educators, and architects-to-be we find ourselves in a position, where, image is everything in architecture, and everything is already an image.

In the context of [Contemporary Architectural Labour](#) images are what you are paid to do. They are the quantification of architectural thought. In that sense, they are a very convenient materialisation of effort, an actual outcome that can be monetised, something you can charge for. Hence, everything is equated to its capacity to be shown. That which remains excluded, the “[Out-of-field](#)”, due to its inability to be translated to the realm of the visual, is considered less valuable if acknowledged at all because it cannot be equated to capital. One can recognise the emergent problem in the words of Robin Evans (1984, 481), “Architecture begins and ends in pictures, but pictures don’t give us all we need”, because “not all things architectural [...] can be arrived at through drawing” (Evans, 1985, 5) Therefore, in a state where “image is everything and everything is an image”, much of the un-imagable is essentially neglected. Echoing Frichot (2014, 163), in presenting future architectural outputs as static, polished and idealised objects lies the danger of how easily the images we produce can enact prescriptive realities, essentially predetermining processes of subjectification and dismissing the possibility of alternative future expressions (of both spaces and people). Further on, those usually well-intentioned pictorial practices get entangled in networks of market and informational capitalism, where there [Complicity](#) in detrimental practices - such as capital and material extraction and aestheticisation of politics - remains somewhat unacknowledged. To quote Frichot (2019, 165) once again, “The [Affective](#) labour of images [...] operate in a reciprocal, if disjunctive, relation with the concepts and discursive statements architects enunciate.” In other words, what we produce blindly, unaware of the systems is going the enter, once entangled in networks out of our realm, gains entirely new meaning which is contrary to what we claim to fight for.

[Representation](#) emerges as the meeting point of an immense amount of architectural issues that are manifested in pictorial practices, whose behaviour and modes of production we fail to grasp, ultimately resulting in [Alienation](#). The question remains, how to battle this condition? In fact, we have already taken the first step, which is to recognise that in its commercial, contemporary incarnation, architecture is predominantly occupied with image production. However, the next step, which is more of an expedition, is to begin grappling with image ontology and epistemology, understanding its inherent qualities and processes that shape it. Finally, this begs the question, “What is an image?” In the words of William Mitchell:

You can hang a picture, but you cannot hang an image. [...] It is what can be lifted off the picture, transferred to another medium, translated into verbal ekphrasis, or protected by copyright law. (Mitchell, 2005, 85)

Here Mitchell provides an updated version of traditional [\[\[Signifying Semiotics\]\]](#), which have a common understanding of images as signs, or as Martin Schwab (2000, p.110) puts it “signs that present their meaning in an iconic mode.” Meaning, that they communicate through structural analogues of what they want to convey, and as a mode of re-presentation rely on mimesis or similarity. In his book “What Do Pictures Want?” Mitchell transcends this conception and goes on to argue that images are much more than simply what they look like. The distinction between image and picture inverts the common perception that images are static entities. Images are inherently agile due to their ability to move from one medium to another, but also to transcend the medium itself. That is to say that although what we consume is transmitted visually, the image remains independent of its medium (Shwarte, 2019, 85), it is that which can be “lifted off”. Another mistake that we should avoid is to think of images as singularities. As H el ene Frichot reminds us in her essay “Gentri-Fiction and Our (E)States of Reality”, we should not understand images as singular entities that operate by themselves in an isolated state. Their dynamic character stems from the way they operate in “animated networks or assemblages”, or as Deleuze famously points out, “The image is not an object but a “process”. Furthermore, they possess a certain duality, “they are made but also in the process of becoming” (Backlund et al., 2019, 15), at the same time they are constructed by and within their environments and have the capacity to reconstruct them. This process of becoming is illustrated in their movement through various networks and how they transform them, all the while transforming themselves as a part of this encounter. Therefore, in the words of Sjoerd van Tuinen (2019, 229), the image makes no significant movement without itself transforming, and its becoming is defined by the way it adds itself to its environment and therefore changes it.

Semiotic practices have been established as the dominant mode of how we perceive, appropriate, and present information, therefore, laying the basis for learning itself. In the words of Marc Boumeester (2019, 53), “The way we perceive is not only learned but also part of the way we learn.” It follows that images possess the power to mediate our worldly perception and their far-reaching effects can be traced from changing trends to behavioural biases, political propaganda, gentrification, and displacement of people. Following Nelson Goodman, no longer simply mirroring the world, images are “ways of worldmaking”. Contrary to the common understanding embedded in [Signifying Semiotics](#), the power of images does not lie in their “signs” and the messages that they are transferring mimetically, but it stems from the networks that they infiltrate, from, or reinvent. In our current systems of overproduction of images and sensory overload, the value of an image is no longer equated to the production of novel thought, information, or content, but rather with their “reproductive potency and fertility” (Mitchell, 2005, 90), or how easily they can connect to existing ideas, social and political agendas, capital etc. This is what David Joselit terms as the aesthetics of the “Search Engine” that is produced by the constant [Recycling](#) of visual content. That is to say, the power of the image is in its production and circulation and the processes of subjectification it affects. It fol-

lows that the power of circulation and affect can shift the cognitive biases of a disciplinary collective. Therefore, images are in a peculiar position. On one hand, they can be utilised towards further strengthening dogmatic tendencies, facilitating exploitation and confinement, on the other, they hold liberating potential, performing as prophets illuminating the future that until now could not have been depicted (Mitchell, 2005, 168).

Acknowledging architectural imagery as only a small part of a wider ecology of images opens up the theorisation of architectural output to a logical approach through the lens of image theory and [Contemporaneity](#). In the spirit of [A-Signifying Semiotics](#), less interested in the qualities of the image, this approach shifts the focus towards its capacities to produce affects and percepts, as well as the networks that give rise to it. Following a Simondonian train of thought I approach the image as a quasi-organism capable of becoming. Much like any other technical object, images are adaptive mediators between subject and environment and participate in processes of transindividuation by mixing with non-technical elements and forces. In the words of David Joselit (2013, 94-6), "The capacity to format complex and multi-valent links through visual means—is derived from networks rather than discrete objects." That is not to say that images do not represent, on the contrary, there has been a process of the [Industrialisation of the Symbolic](#), where their signification has been "re-organised under a non-representational system of computational capitalism through processes of extraction, abstraction and the financialisation of culture (Dewdney and Sluis 2022, 5)." The image is constructed through a complex, intricate, and interrelated system of networks that presents an assemblage of visibility, technology, politics, and social relations. Its existence is intricately entangled and intertwined with software, hardware, code, programmers, platforms, and users, it is lodged in a circulatory system of desire and exchange, which itself relies on a very specific economic regime (Center for the Study of the Networked Image 2021, 40). From these networks emerges the [Networked Image](#).

Industrialisation of the Symbolic

If we accept the argument that traditional [Signifying Semiotics](#), reliant on representational modes of communication, have given way to [A-Signifying Semiotics](#), defined by their non-representational and operational character, one might ask what is the role of the residual representational image whose presence has been steadily increasing in the past decades. As a champion of the theory of the [Networked Image](#), Dewdney (2022, 32) argues that culture, legible in the representational side of the [Image](#), is a necessary part of the industrialisation of the symbolic. Images make data understandable to humans in visual forms that bear no resemblance to the [Technological Substructures](#) that shape them. In turn, the engagement with visual content makes humans legible to machines (Burbridge 2022, 67). In other words, digital technologies enable the re-organisation, industrialisation, and colonisation of the symbolic by enabling the quantification, abstraction, and financialisation of the interaction with visual content (Hui 2012, 393; Centre For The Study Of The Networked Image 2021, 42). In such context, the industrial (public) sphere is intimately entangled with the personal sphere, where sites of visual interaction (cinema, social media, television, etc.) are converted into factories, spectators are transformed into workers, and looking is equated to value-productive labour (Burbridge 2022, 61; Dewdney 2022, 32). It follows that in the existing system of extraction of economic value through the algorithmic surveillance of our online presence, visual content will continue to have fundamental impact on our lives (Burbridge 2022, 61). The increased digitalisation of culture and its reliance on screen-based mediators is exponentially reflected in the strengthening of the importance of existing regimes of visibility and the power they hold over cultural production and therefore subjectification. As the dominant form of [Mnemotechnics](#), or tertiary forms of retention ([Archive](#)), imagery becomes increasingly decisive in the distribution and delimiting of the sensual by actively defining the limits of what can be seen, sensed, or what can make sense (Lund 2022, 235).

Anthony Vidler (2000,17) notes that, "In this context, the question of architectural abstraction, whether in representation or in building, takes on an entirely new significance. For what seems to be at stake is the instability provoked between the new formal vocabularies generated by the computer and their easy translation into built form, so as to produce, almost simultaneously, an image as architecture and architecture as image." To begin to unpack this quote we need to understand that, in our current mode of production ([Post-orthographic, Contemporary Architectural Labour](#)) architectural [Abstraction](#) - the events playing out on our 3D modelling playgrounds - has exponentially increased its significance. Any variety of forms generated in our [Representations](#) is now very easily translated into built form due to the increasingly intimate bond between the tools we use to make digital representations and industrial production. Hence, image truly becomes architecture. The second part of Vidler's statement is two-fold. First, we can interpret it as the increasing tendency of "frontal ontology", where contemporary architecture relies on visually impactful shapes or materials that impress the distanced viewer, reducing experience to a retinal journey. Second, it can

be understood as how we consume architecture - mainly in the form of images that circulate in social [Media](#) platforms, architectural journals and blogs, movies, books, YouTube tutorials etc. in their circulation, repetition, and [Recycling](#). This gives the sense that images are crossing the screen and acting in reality (Steyerl 2012). This unmediated actualisation changes the direction of time: it is as if "the future has replaced the present by happening before, or by "appearing before", materialising itself in the words of scientists and managers, but also in the algorithms of computing machines" (Portanova 2021, 12). All of this is dictated by the intention to create a predictable, stable and fertile soil for capital extraction. Enabled by the close relationship between design softwares and industrial production, the operational capacity of images is tamed and intentionally enforced. That is why the powers of fiction, made possible in representational means, should not be underestimated, as fiction, appropriated by industrial processes, produces very real effects.

Linear Perspective

Apart from declaring reality to be a flattened, immobile, mathematical projection (Steyerl, 2012, 18), linear perspective (or any orthographic projection) is only capable of representing singular [Abstractions](#) of otherwise dynamic events, falsely depicting subjects, objects and spaces as static entities. More than just a representational tool, linear perspective defined a new way of seeing the world. Its invention enabled the [Quantification and Operationalisation](#) of physical space. Similarly to other forms of [Mnemotechnics](#), it possesses the qualities of an [Archive](#) and actively defines the limits of perception. Furthermore, to quote Hito Steyerl, “As a consequence, linear perspective not only transforms space, but also introduces the notion of a linear time, which allows mathematical prediction and, with it, linear progress” (2012, 18). This static character of [Representation](#) proves to be vital for the usefulness, and therefore [Complicity](#), of architectural representation in current economic regimes, where the ability to foresee a calculable future ensures the predictability of investments and their potential returns. Therefore, architectural representation is obligated to be as accurate as possible in its depiction of possible futures, a perfect simulacrum, where any deviation of the outcome from what was depicted before may result in loss of capital. This deems unpredictability and change to be undesirable as they are equated with the unknown, which may hold ... unpredictable profit margins.

In their preemptive capacity, 3D modelling softwares, atmospheric renders ([Any-space-whatsoever](#)), and detail drawings have constituted a condition, where the future, presented on a screen, has replaced the present by “happening” or appearing before it (Portanova, 2022, 12). This predictable behaviour was the reason why the linear perspective has been championed for so long. However, in our fixation with perfection, control, predictability and compulsive need to understand and explain everything, a worthy contender of the linear perspective has emerged - God’s eye. Following the argument Steyerl laid out in her essay “In Free Fall: A Thought Experiment on Vertical Perspective”, with the introduction of aerial or satellite views, the importance of linear perspective has been diminishing. However, this is not a replacement of one with the other, but rather the radicalisation of the paradigm of linear perspective. The gaze, which was already mechanised and mobilised with photography, has left the ground and together with it its human carrier and was outsourced to machines patrolling the atmosphere (Steyerl, 2012, 14;24). Now capable of zooming in and out, reminiscent of the famous Eames’ production “Powers of Ten”, the “detached observant gaze to become ever more inclusive and all-knowing to the point of becoming massively intrusive [...] both micro- and macroscopic” (2012, 24). This new and radicalised paradigm has been appropriated in computer modelling, giving rise to an updated version of the comparison first made by Nelson Goodman between magician/painter and surgeon/cameraman. William Mitchel (2005, p.321) proposes that the cameraman has been displaced by the “designer of virtual spaces and electronic architectures”, or the cyber artist who paradoxically operates closer and in more detail than ever, and yet even further away from its surroundings. This descrip-

tion is now bordering what Martin Heidegger termed “technological enframing”, where due to the advanced degree of specialisation of technological production, any outcome of such a system will be increasingly divorced from the experiential register of the “real world” (Kane and Korteim, 2018), inevitably leading to a state of [Alienation](#).

Media

Given our non-stop online presence, it is safe to say that "the media that interconnect us make us contemporaneous". The generalised sharing of time, which defines [Contemporaneity](#) is – among other things – established through a sharing of images and symbols or a shared relation to the same, or some of the same, images and symbols, creating [Visual Bonds](#) (Cox and Lund 2016, 11-12). The global circulation of [Images](#) and the workings of new media realities increasingly seem to mediate social relations and the social imaginary (Lund 2021, 6), where "cinematic politics become post-representational - they do not educate the crowd, but produce it" (Steyerl 2012, 73). In these new media, the fundamental ontology of [Images](#) is inflated and manifests itself in new ways (Mitchell 2005, 97). It is precisely due to this inflation that the underlying [Technological Substructures](#), circulatory systems, and operational capacities of the [Networked Image](#) become visible. For example, Instagram may not be the ideal platform for meaningful discourse on imaging in architecture, but it has undeniably become one of the most culturally impactful pieces of software (Canizares 2019, 524), where "audiences are linked almost in a physical sense by mutual excitement, affective attunement, and anxiety" (Steyerl 2013, 43). Therefore, media should be viewed as dynamic entities, functioning as environments for creating meaning and symbolic exchange, where processes of large-scale transindividuation and subjectification occur (Cox and Lund 2016, 29).

Mnemotechnics

Mnemotechnics are “storehouses of the cumulative knowledge and wisdom we now refer to as “culture,” whose memory exceeds the lifespan of the finite individual”(May, 2019, 39). They are what Bernard Stiegler calls tertiary forms of retention, or material inscriptions of memory, which perform as an "externalisation of memory, which in turn determine our retrieval and understanding of the past and possible projections of the future" (Huy, 2012, 390), highlighting their archival nature ([Archive](#)). It follows that consciousness, and therefore memory, have an inherently technical nature (Nilson 2022, 5) and processes of transindividuation are enabled by "tertiary retentions constituted by the artificial organs of technics and mnemotechnics"(Radman 2022, 3).

Representational techniques like linear perspective and parallel projections should be understood not merely as methods, but as an "epistemological framework" that reinvents the act of seeing the world scientifically, reducing the experience of space to mathematical abstraction (Aurieli 2015). Creating a means of measurement does more than simply quantify a phenomena; it establishes a way of perceiving and relating to the world (Bacon 2013, 79). Hence, Simondon's interchangeable reference to images, in which measurement and quantification becomes physically engrained, as schemas of action or behaviour (Hoel 2022, 18). In that sense, architectural technicity represents the transformation of empirical memory into a foundational condition for new experiences, or "the posteriori becoming a priori" (Radman 2022, 3).

Networked Image

In a contemporary digital era marked by Web 2.0, the colonisation and automation of signification, and the financialisation of data, the “networked image” performs as a “socio-technical assemblage” (Center for the Study of the Networked Image 2021, 40), with emphasis on its reliance on [Technological Substructures](#) while actively participating in governing social relations. Transcending the realm of traditional [Signifying Semiotics](#), images are no longer static, mimetic signs, but rather agile entities that can go beyond their mediums and form, alter, or disrupt networks. They play a crucial role in mediating worldly perception, influencing trends, biases, political propaganda, and urban agendas, hence the accuracy of Nelson Goodman’s statement that images are not just ways of world-mirroring, but “ways of world-making.” This is because networked images are both integrated into the broader networked infrastructures and dynamics of global capitalism and involved in the cultural flows and aesthetic trends that shape living, creating, consuming, and imagining in the computing age (Tendone 2022, 138).

According to Katrina Sluis (2022, 49) the networked image is constituted in the relational activity that takes place between, “the back-end extractive functions of the database and the front end of user interaction in uploading, sharing and viewing images”. Put simply, the networked image operates both as a collection of bytes and as picture at the same time (Maleve 2022, 93). This condition can be exemplified by a vegetal metaphor propagated by Gilbert Simondon in and his exploration of the imagistic cycles. In his view, images are akin to the visible part of the mycelium, the outcrop of hyphae that facilitate their emergence. They rarely appear spontaneously; instead, they are meticulously prepared and sustained by a rhizomatic substrate that supports and nourishes them:

“An image never comes alone, it rests on a complex network that allows for it to come into being, it emerges through the network” (Alloa 2021, 10).

The image is embedded within a circulatory system of desire and exchange, which depends on a very specific economic regime (Steyerl 2013, 5), and its distribution process reveals the structure, dependencies, and meaning (Center for the Study of the Networked Image 2021, 40).

The dual nature of the networked image comes from its [Technological Substructures](#), which allow for it to become an active force in the shaping of [Contemporaneity](#). The networked image functions on two concurrent perceptual and cognitive levels: one upholding an established visual code and the other subverting it. The visible screen image and the signalled image are interconnected in the algorithmic image but have distinct objectives. The screen image aims to satisfy the social desire and unconscious, while the signalled image focuses on financial optimisation, capital, and exchange. As an active agent in the [Industrialisation of the Symbolic](#), the networked image has the capacity to produce capital around the clock, fitting into the conception of our world as a “non-stop work site” (Burbridge 2022, 65). This re-

flects in the tendency of visual technologies to continue to broaden what can be visualised, even though the visual itself diminished more and more. (Dewdney 2022, 30).

The networked image emerges as a mediator between opposite modes of visibility ([Signifying Semiotics](#) vs. [A-Signifying Semiotics](#)), between different currencies (cultural, commercial, social), between different codes (visual and semantic), and between different languages (human and computational). Therefore it engages in various practices that belong to micro (granular), meso (personal), and macro (planetary) scales. If one is determined to come up with ways that can influence the elusive and entangled contemporary networked culture and its politics and aesthetics, then they should pay attention to how the image performs on all of those scales, seek for the gaps in-between, and open up wiggle room for intervention within them (Tendone 2022, 148). Ultimately, what is at stake in this process is how knowledge is produced, distributed, and accounted for in our unfamiliar contemporary environment, defined by radically different social relations and cultural forms (Center for the Study of the Networked Image 2021, 43).

Out-of-field

Just like movie directors, Renderillas and Oraxotans perform their own kind of framing - picking the right view, choosing the right textures, adjusting the light, selecting the actors in the scene, etc. As Deleuze (1997, 18) explains, "Framing is the art of choosing the parts of all kinds, which become part of a set." However, he continues to add that the [Set](#) is an artificially closed system which performs an "informatic" role, communicating through its constitutive parts with the audience. Unlike other set designers, the architectural worker-[Primate](#) has to assemble its set within an [Ultra-stable](#), closed system, and in such systems what is often more important is not what makes the cut, but rather what remains consciously overlooked. As we have already shown, in architectural [Representation](#), that is almost everything of contemporary value. Needless to say, practices of framing that constitute extremely closed systems are only aggravating the alienated ([Alienation](#)) state of the profession and distance it even further from the actual problems that need to be addressed. What interests me is precisely what lies beyond the frame - the "out-of-field" - that which remains neither seen nor understood, yet very much present (Deleuze 1997, 15). In an architectural context that would be defined by the shortcomings of representational modes of production - any processes that it is impossible to encapsulate. Although revered for its capability to materialise architectural thought, representation fails to acknowledge the processes and forces that shape it. When it comes to capturing the design process, with all its twists, turns, iterations and justifications, the shortcomings of pictorial practices are notorious. Therefore any social, political, environmental, economic or personal intricacies are systematically obscured into the out-of-field. To tackle the out-of-field that remains beyond the frame of representation is very much an act of "deframing", or [Elucidating](#). That is to explore what processes have been consciously left out and what networks lay beyond or behind the initial framing. To elucidate means to engage in practices that see more and see differently, and therefore remember more, and remember differently.

Performative

My argument so far has been that architectural [Representation](#) has spiralled into a rigid, self-referential, alienating practice which tends to rely on fixed essences to guarantee rightness, hence constituting a dogmatic image of thought that systematically excludes any socio-political, environmental, personal, or economic intricacies. So, if we accept that the aesthetic norms of architectural [Representation](#) delimit contemporary practice, I propose the notion of performativity as a counter-action that "can work to "unframe" the messy embodiment that constitutes our relationship to spaces and things" (Jones 2013, 56).

From the very beginning, it is important to make a distinction between the notions of "performance" and "performativity". While both of them emphasise action and liminality over commodifiable objects and fixity, the latter is not confined to the theatrical implications of the former. Performativity, unlike performance, is not a strictly artistic endeavour, rather, it opens up artworks as social practice to the relations and interrelations—the performances of everyday life and culture—in which they are embedded" (Bagnall 2013, 429). Panos Kouros (2012, 45-6) compliments this understanding by highlighting that performance connotes an immediate relation of subjects active in the present, and is characterised by an event whose experience is more important than its documentation. By contrast, performativity is connected to iterability and the recycling of actions, "It refers to actions that establish a reality based on the iteration or displacement of (social) conventions" (Kouros 2012, 45-6).

To get into the performative spirit emphasise the mundane and examine backgrounds and sites that fall outside common awareness where relational activity takes place. Engage with the unknowable, and accept the uneasiness and anxiety that come with experience that is unpredictable, otherwise, you will be back where you started looking at what is already recognisable and known ([Precedent](#)). The goal is not a prohibition of representation and its various forms, but rather their re-situation. Performativity becomes the presentation of potentialities by thinking less about re-presenting what you already know based on accepted norms and conventions; when you stop speaking for or about, but think with our surroundings (Frichot 2019, 117).

In this light, the performative approach provides an alternative to the traditional way of production, where [Architectural Output](#) is conditioned by the application of [Hylomorphic Schemas](#) and rigid, and reductive, representational means over the open systems that comprise out lived spaces. This provides an "opportunity to work with complexity from the inside instead of reducing it to something orderly, predictable, and manageable in advance" (Zones Urbaines Sensibles, 15). Therefore it proposes a shift from the [Ultra-stable](#) systems, which are incapable of incorporating contingency and [Second-Order Effects](#), to meta-stable systems of production that can accommodate and acknowledge the contingent nature of the open systems that architecture is entangled in. This approach is much more suitable for navigating complexity from within. Such transition requires the moving away from the desire to

understand singular parts towards the systemic understanding of the linkages between them, and therefore grasp the relational principles of the larger system. Arguably, this "performative repository", which you are exploring right now, aims to do just that. It follows that, in this paradigm, change becomes an "emerging property that cannot be predicted or planned for in a linear fashion" (Aquino and Lampheuy 2024, 3).

Don't think of it as an arrival, instead, think of it as a door toward uncertainty where meaning must be understood as always yet to come rather than as residing in some preexisting repository of language (Evans 1984, 480).

However, if the performative approach has any future viability, it requires modes of archiving and interpretative models that can analyse and historicise, which are just as capable of accommodating action and contingency (Jones 2013, 56). The alternative to the traditional [Archive](#) is, of course, the "performative archive", where the archival entries should be accessible as reusable data that lends itself for further editing. In the process of addition, reproduction, and alteration, such structures allow for the possibility of "contesting co-utterances." As a result the the project attains new meaning as a dynamic and elastic frame that can produce and support series of projects that are a part of it (Kouros 41;45;49)

This definition of a performative archive is implemented in the notion of [Hosting](#), which I have embraced and implemented "Booklet of [Exercises](#) in Visual Literacy". Knowledge production in this case is strictly related to experience and allows for contingent forces to infiltrate the process. Unlike recording or representing, hosting is capable of encompassing the entirety of an event, with all its intricacies, and allows for its future repetitions which can produce different outcomes. Contrary to conventional archival practices, it can activate non-representational modes of learning which happen through doing. In a traditionally non-representational spirit, hosting emphasises the mundane, the ephemeral, and the playful nature of knowledge production which embraces the indeterminacy of final results. It is satisfied only with the act of setting up the conditions ([Sets](#)) that allow for performative action to take place. Prioritising practice over results, this approach aims to distance itself from the polished and static architectural image-object and emphasises the importance of the relational activities that take place in a network, rather than the singularities that it consists of.

Implemented in the grittiness of physical space, the performative approach can take the form of the practice of "something doing" - "when something does, new relational fields are forming, and with them, new modes of existence" and new sensibilities that lay beyond the thinkable, and erupt from the unthinkable (Manning 2016, 66). Doing in this context is not about reaching a final destination or the production of finished objects, it is about setting things in motion where one action can lead to the next. In the process "the norms and values that have brought the system, process, or place to a standstill" can be questioned, examined, and reconsidered (Zones Urbaines Sensibles 2019, 14).

One step further, this time in a strictly architectural sense, the performative architectural object "resembles an open-ended conversation which acknowledges that shaping forces will come after the building is finished" (Hall 2020, 81). Embracing the continuity of variation,

built forms are seen as remnants of an evolving process, emerging from the contingency of events. In the words of Massumi, "the sign-form fundamentally means nothing", it is meant to stand at the threshold between processes" (Massumi 1998, 2;19). This upholds an understanding that does not regard buildings (or any architectural output) as "finished" upon its physical completion. Instead they come to fruition, realising their full potential, in the minds and actions of those who engage with them (Hall 2020, 81).

Post-orthographic

In his essay “Everything is Already an Image” John May makes the compelling argument that we are way past orthographic production, and in fact producing in a post-orthographic regime. Meaning, that there is no longer such a thing as an “architectural drawing” due to the absence of its “technical-gestural basis” (May, 2017, 20) . The new production and post-production tools have displaced the orthographic “technical-gestural basis” and are radically different in their production, however, they are accepted as its successor solely based on the visual similarity of the output. When it comes to architectural production, we rarely ever produce anything that leaves the office in a shape other than an [Image](#). In that sense, architectural output has been boiled down to the process of image production, because regardless of whether we make sketches, plans, renders, models or clay figures, they inevitably end up in files, scans, or pictures, and therefore images. The term “drawing”, which we apply to both notational and affective output, is only a remnant from an orthographic past, a signpost of familiarity, a vital element of comprehension, that helps us cope in the face of unfamiliar conditions, that is our technical milieu. Image is everything in architecture, and everything is already an image.

The main problem outlined by May is not merely the necessity to change our terminology, but the importance of acknowledging our inability to comprehend our tools, surroundings, and the [Technological Substructures](#) that support them. It is not that important whether we call something an “[Image](#)” or a “drawing” unless we move away from the traditional understanding of how those perform. In their current apprehension within [Contemporary Architectural Labour](#), both terms are embedded in a traditional understanding of [Signifying Semiotics](#), and therefore, operate in a similar way. What matters is acknowledging that [Architectural Output](#) is produced and proliferates in a radically different milieu, no longer reducible to our traditional understanding of signifying semiotics, and incorporating a much wider range of agents that influence the production of a [Networked Image](#). These new factors have radically exposed and inflated the fundamental ontology of images (Mitchell, 2005, 97). The longer we refuse to lift the veil of familiarity, the longer it is going to take to realise that architectural output is part of a much larger ecology of images, and as such it is subject to the processes that come with it. Failure to acknowledge such processes makes architects incapable of grasping the onto-epistemology of the outcomes they produce, rendering them illiterate, a-political, and effectively disconnected from and oblivious of their surroundings, hence, the accuracy of the [Primate](#) comparison. The outlined condition above is an example par excellence of what Gilbert Simondon understood as “[Alienation](#)”.

Precedent

'Recognition is located as a first step toward representation, the recapitulation and security of the same in identity (ad nauseum)' (Deleuze 1994, 138).

Representation and recognition are inextricably linked, for what is represented is that which is recognised. Recognition leads to established styles of representation securing the presumed good and common sense of design, guaranteeing its rightness and providing a sense of [\[\(Re\)Assurance\]](#) in designers. In an architectural context this process is exemplified by the obligatory "recognisable design precedents", which are there to reassure critics by providing the necessary comparison to something that they recognise (Frichot 2019, 173). Driven by the comfort of recognition and the desire to meet established standards, the over-reliance on precedents in architectural practice can stifle creativity and innovation. This condition is present both in educational and professional circles, and as Frichot (2016, 167) notes, "The teacher, or in this instance the critic or architectural 'jury member' habitually refers to taught concepts, the already known, the images that have given pleasure previously, all the while demanding the new" (Frichot 2016, 167). Burdened with the model of recognition, thought loses the ability to wrest itself free of the forces that oppress it and render it stagnant. This paradoxical expectation places a burden on architects to balance innovation with recognisability, often resulting in the [\[\[Recycling\]\]](#) of familiar themes.

In the digital age, the problem is exacerbated by the pervasive influence of [Media](#) platforms like Instagram, Pinterest, and architectural blogs. These platforms thrive on the rapid dissemination and consumption of visual content, often prioritising [Images](#) that are easily recognisable and immediately appealing, only to strengthen what David Joselit (2013) calls the "aesthetics of the search engine". The overreliance on precedents not only hampers creativity but also leads to a more [Self-referential](#) practice that is heavily influenced by the circulation of images on media platforms. This phenomenon is a byproduct of the architectural community's tendency to look inward for validation and inspiration, creating a closed loop of repetitive designs and concepts. By continually referencing and replicating designs that have proven lucrative, architects and developers align their work with market-driven imperatives rather than the pursuit of new, context-specific solutions. This practice reinforces the commodification of architecture, transforming buildings into mere products designed for maximum financial return rather than meaningful contributions to the built environment. The focus on economically successful precedents perpetuates a cycle where architectural value is measured primarily in monetary terms, highlighting its [Complicity](#) in the broader mechanisms of market capitalism that prioritise profit over public good and cultural significance.

Primate

The idea for the title comes from the reduction of the architect's role in the contemporary workplace to that of a "CAD-monkey", which is a common professional joke that has been circulating media platforms. The "funny" part comes from the situation many professionals (especially those who work in large offices) find themselves in which resembles the common joke of a monkey that is placed in a radically different milieu whose modes of operation it is unable to comprehend, and therefore, is worthy of our laughs. In recent times, due to the meteoric rise of Building Information Modelling (BIM) which has dethroned Computer Aided Design (CAD) as the main platform for [Architectural Output](#), a new architectural worker-primate has been introduced as a continuation of the joke - the "BIM-panzee". The traction that the primate comparison has gained over the years, establishing itself as a sphere-wide inside joke, is evidence of the implicit recognition of the dissociated, automated, and reductive processes that sustain the banality (and reality) of building.

The increasing importance of visual [Representation](#), or more precisely the production of [Affective](#) imagery, requires the introduction of new worker-primate species. The humdrum of contemporary architectural practice, I will argue, is maintained by our inability to grasp the wider shift in the processes that shape our work, which gave rise to the Renderilla and the Oraxotan. Yet to be explored, they offer ground for new and exciting research into the [Contemporary Architectural Labour](#) and its modes of production that conditioned their occurrence.

Quantification and Operationalisation

Mathematically constructed perspectives, orthographic projections, and iconographic plans rendered reality operational and pliable from a distance (Aurieli 2023, 56). Planning and standardisation extend beyond rationalisation to align social organisation with the logic of production and profit (Aurieli 2023, xvi). Thus, [Abstraction](#) results not only from technocratic organisation but also from the dominance of exchange value, where the advent of mathematically constructed space allowed for everything to be measured and controlled, and therefore fall under its rule. In other words, "in order to become a commodity, space must have been subjected to systems of representation and procedures that allow it to be divided, measured, and compared" (Stanek 2008, 70-1). Therefore, the project became a symbol not only of the architect's authority but also a broader system where politics and economics converged into a single entity (Aurieli 2023, ix).

An example of this operationalisation is the diagram which for 20th century philosophers Foucault, Deleuze, and Guattari "has nothing to do with [Representation](#), rather the diagram is what it does: it makes an instance of power not only legible but effective" (Aurieli 2023, 22). Similarly, "[Linear Perspective](#) not only transforms space, but also introduces the notion of a linear time, which allows mathematical prediction and, with it, linear progress and a view onto a calculable future" (Steyerl 2012, 18). Through the application of reductive, humanly understandable, [Hylomorphic Schemas](#), architectural [Representation](#) declared its [Complicity](#) to the processes of capital accumulation. What followed from possibility to quantify physical space and yield it was, "the abandoning of the idea of the city as a political entity in favour of an all-encompassing technocratic system of houses, mobility, and industry" (Aurieli 2023, 116).

Reciprocity

Here we shall examine the influence of architectural technics and their capacity to condition thinking. It is only right to start with one of the canonical texts written on the topic “Towards a Philosophy of Photography” by Vilem Flusser. In his account, Flusser (2000, 22) clarifies that technical apparatuses are products of culture and as such culture is reflected and recognisable in them. As we have already established earlier, all tools and techniques that architects have in their arsenal are [Mnemotechnics](#) that act as externalised memory or storehouses of cumulative knowledge. In their most elaborate and complicated form, they take the shape of computer modelling softwares that have become an industry standard. In her essay “Deleuze, Theory, and Space”, Elizabeth Grosz (2003, 83) defines them as “the necessary and practical facilitation of the real we need in order to make space conform to our needs.” However, neither CAD nor BIM nor any post-production software originated as specifically crafted for or out of the needs of the architectural profession. The former were initially geared towards the engineering sectors, while the latter towards the film industry. Radically faster and much more precise, they facilitated architectural production, leaving design professionals in awe of their “magical” capabilities. As Zeina Koreitem (2019) points out in her essay “Some Notes on Making Images with Computers”, there is nothing wrong with this importation, however, while we were busy picking up our jaws, no one noticed that along with the automation of the mundane, time-consuming tasks, “the values of other disciplines and practices are imported as well, quietly “smuggled” in the boring, hidden innards and interfaces of the tools themselves.” The resulting reverence and obsession with precision, accuracy, efficiency, speed and other technical values was reflected in the technical minimisation of error and uncertainty together with their derivatives - accident, inaccuracy, disturbance, unpredictability, etc. In other words, any imprecisions were deemed undesirable. However, historically these have proven to be vital for discoveries, and novel interpretations. In their emphasis on precision, or more importantly in their repulsion to error, such technics are actively supportive of the structures that establish and sustain the [Dogmatic Image of Thought](#) and suffocate invention.

This half-understood reception of the tools we use becomes even more problematic when it is combined with one of the most pervasive fallacies of current modes of thinking, precisely the conception that thoughts or ideas are formed in the brain or mind, independently from their technical surroundings. This is exactly what John May emphasises in his book “Signal. Image. Architecture.” There he follows Bernard Stiegler and his understanding of human experience as “epi-phylo-genetic” - life is lived by means other than life, through technical objects (or organs - emphasis on their genetic character) (May, 2019, 36). Furthermore, anthropogenesis - the process of becoming human - is inextricably linked to the technics it shapes and which shape it in turn. Here it is adequate to make a clear distinction between technics and technology. Technology can be described merely as a subcategory of the wider field of technics, the difference being that the former is merely the industrialised, formalised, and

usually automated form of the latter. Technics encompass the wider compositions of tools, techniques, and technologies and their capacity to entail cumulative knowledge, while technology strictly revolves around singular objects (May, 2019, 38). Examples of architectural technics can range from pencils, tracing paper and sketching, to the application of linear perspective in CAD or BIM softwares.

If one remains contemptuous of the common conception of thought occurring independently of its technical milieu, in the mind of the subject, the next logical step would be to think of the tools we use merely as neutral vessels of thought, which help carry it to fruition. This is definitely the case in [Contemporary Architectural Labour](#) where professionals work under the conception that the digital technologies that they use are simply assisting them in the realisation of their self-contained thoughts and ideas. However, Stiegler and May are in pain to point out, that this could not be further away from what actually happens. This should be even more evident when we expose what CAD stands for - Computer-Aided-Design. Right there, in its name, stands the purpose of such a tool, namely its active involvement in the process of design. Tools, images, keyboards, and screens are not simply neutral vessels for our ideas, they actively shape our ideas because we think with and through them. As architects, we think with and through pencils, sketches, perspectives, Photoshop, Illustrator, CAD and BIM. In other words, our tools become formative of the way we see the world and the ways we make sense of it. If we refuse to acknowledge that thought emerges at the junction of the technical and the subjective, we shall remain oblivious to the processes that shape our work. As Flusser (2000, 27) predicts, in the obscurity of our tools we shall lose ourselves inside them, searching for possibilities of what they are conditioned to produce. In this case, object-oriented softwares, which are only capable of tracing the outlines of subjects and objects but not their linkages, condition an object-oriented thinking, which has become evident in the prevalent [Image-Object Fixation](#). Just like the photographers he describes, who are focused on the camera to the point where the world becomes a pretext for the realisation of camera possibilities, we, the renderillas and oraxotans, are focused on the realisation of 3D modelling software possibilities. As Yuk Hui (Lovink, 2019) warns us, the void between the ever-more ubiquitous and fanatical use of technology and our understanding of its internal processes and radical transformations its triggers grows bigger and bigger, and with it grows our dependency on processes we no longer comprehend. That void is occupied by [Alienation](#) and the more it expands, the more palpable it becomes.

Recycling

In the rampant exploitation of [Affect](#) many have identified a steady convergence between architectural [Representation](#) and marketing strategies, up to the point where the boundaries between the two have been smudged. This is evident in the tendency to easily reduce [Architectural Output](#) to recognisable icons and totalising images (Søberg, 2019, 189). In this regard, architectural imagery is growing increasingly similar to the “vulgar” modes of imaging as Mitchell (2005, 39) calls them - commercials, propaganda etc. - and their blunt and unapologetic expression of desire. And just like such, in their ubiquity and commodification, the “ceaseless bombardment of unrelated imagery” intended for the postponement of boredom that Pallasmaa describes (2012, 35), is a continuous subject of reproduction, reformatting and recycling. Increasingly more accessible, only a few clicks away, the perpetual waves of [Images](#) become a main source of “inspiration” in the form of online archives of [Precedents](#) that act as templates for what is acceptable or in style, shaping what David Joselit calls “the epistemology and aesthetics of the search engine.”

In his book “After Art” Joselit explains that in the ecology of images and the networks that shape them, the traditional source of value for images has been subverted. No longer is the value of an image equated to its contribution to the introduction of novel concepts, opening up of new views, or creation of content not yet seen. Rather, an image accumulates value through its capacity to contain or gather as many intelligible patterns that open it up to connections with a larger amount of other images, concepts, systems, movements etc, exploiting their capacity to produce [Visual Bonds](#). Images often leave us wanting more, as they awaken desires but fail to fully satisfy them. They create a sense of longing by presenting something only to take it away almost immediately (Mitchell 2005, 80). This leads to an insatiable craving for more images, driving us to consume them rapaciously. As a result, we engage in endless combinations of images, each new image relying on the partial memory of those previously consumed (Frichot 2016, 187). Hence, the increasing popularity of reframing and reiterating content with slight variations. Just like in a Google search, when an image enters the enormous network of information, the more connections (results) it makes, the better. What has become blatantly evident in [Media](#) platforms such as Pinterest, Instagram, or any architectural journal is how architectural production, but also artistic or any sort of design output, is mimicking the operational structures of search algorithms, and simply “reformat existing streams of images and information” (Joselit, 2013, 58). In this endless repetition and recycling, architectural [Representation](#) is stuck mirroring its own problems, restlessly abusing its own traditions (Frampton, 2001, 26) and becoming more and more [Self-referential](#), disconnected, dare I say ... alienated ([Alienation](#)).

Representation

Much has been said about architectural representation and my goal here is not to delve deeper into the annals of its production, significance, or graphic qualities. One thing, however, has been made pretty clear in the accounts that venture into such historical analysis. Ever since the introduction of [Linear Perspective](#) and its documentation in Leon Battista Alberti's "De Pictura" there has been a gradual rise in the importance of architectural representation over the past centuries. This development has come to the point where it has become the established norm of [Architectural Output](#) due to its highly valuable communicational and [Affective](#) capacities. Representation's efficacy in translating architectural thought into built objects has become essential in today's economy reliant on the division of labour, where the architect is exclusively focused on the project, rather than on its execution which is handed off to construction specialists. In its affectionate state, representation serves as a form of visual persuasion that communicates architectural vision and incites desire, longing, and anticipation within the viewers, therefore actively participating in the sourcing of funding, validation of future outcomes, and gaining public appreciation or approval. Those qualities make representation an invaluable tool for architects and it should be no surprise that it has become the bread of butter of [Contemporary Architectural Labour](#).

Although a perfect fit, the relationship architect-representation is not so straightforward and unproblematic. The obsessive fascination with architectural [Imagery](#), and the volumes written on guidelines, creative properties, usefulness, and semiotic importance, architects and scholars have established a cult surrounding representation and its inextricable relation to architecture's essence, resulting in an [Image-Object Fixation](#). Focusing on the perpetuation of knowledge and guarding the principles of production and appearance, has exposed its [Self-referential](#) nature and it has resulted in a canonical set of rules effectively fortifying the profession. Instead of resorting to iconoclastic gestures, the more important question to ask is, how come have we ended up in a vicious circle, that keeps closing in on itself, endlessly repeating what is "right", unable to permit anything foreign into its boundaries, and therefore strengthening a [Dogmatic Image of Thought](#).

As Kent Fitzsimons (2010, 16) points out, within the regulating and disciplinary mechanisms of the built environment, drawing, or at least what used to be drawing ([Post-orthographic](#)), serves as an apparatus for the continuation of knowledge. All the tools and means of production, from set squares and perspectives to CAD and BIM, are a form of [Mnemotechnics](#). Hundreds of years of refinement and concretisation have led to the formulation of a set of axioms that ensure a certain guarantee of rightness that are akin to what Robin Evans refers to as the conception of architecture as "an attempt at maximum preservation in which both meaning and likeness are transported from idea, through drawing, to building with minimum loss" (Evans, 1986, 14) Albeit undeniably useful, the indoctrination of such axiomatic thinking, when used hastily, can install a fake sense of [\(Re\)Assurance](#).

Although revered for its capability to materialise architectural thought, representation fails to acknowledge the processes and forces that shape it. When it comes to capturing the design process, with all its twists, turns, iterations and justifications, the shortcomings of pictorial practices are notorious. As Albena Yaneva and Bruno Latour point out in their essay “Give Me a Gun and I Will Make All Buildings Move”, the paradox of the atmospheric render is that it simultaneously presents a highly realistic and unrealistic representation of the environment. Despite the extreme verisimilitude of the architectural object itself or its surroundings, representation fails when it comes to the inclusion of conflicting demands, planning and legal constraints, budgeting, successive models and proposals, stakeholders, users, neighbours etc (Latour and Yaneva, 2017, 105). Following Kiel Moe’s argument laid out in his essay “Metabolic Rift, Gift and Shift”, buildings are an assemblage of a vast amount of energy, information, and matter. This triggers a series of questions regarding what remains outside the scope of representation. What about materials concerning their extraction and transportation? What about political, ethical, and social issues? What about profit margins? What about environmental impact? What about discriminatory and exploitative labour practices? All these “impurities” evade representation. As architects, we are just as responsible for the exclusions as for the inclusion we choose to make. Going back to Deleuze and his investigation of cinematic practices, he introduces an interesting term which is the residue of the process of “framing”. He calls it the “[Out-of-field](#)” - that which remains “neither seen nor understood, but is nevertheless perfectly present” (Deleuze, 1997, 16) or in our case, everything left out of the representational borders is extradited to the realm of the “Out-of-field”. Hence, my research will focus on exploring ways of [Elucidating](#) the important practices that have been disregarded by traditional representation, and therefore making visible or sensible the intricacies that play formative roles in the design process.

Second-Order Effects

In architecture, second-order effects refer to the indirect or unintended consequences that arise from design decisions, often beyond the architect's direct control. These effects are the result of interactions between various elements including human behaviour, environment, culture, and time. Unlike first-order effects, which are more immediate and directly observable, second-order effects are often subtle, complex, and emerge over time. Meaning that architects may design with certain intentions, but the outcomes can unfold in unexpected ways due to numerous influencing factors, which no means of [Representation](#) or [Abstraction](#) can predict. This is due to their inherent condition to represent information in a linear fashion ([Linear Perspective](#)), which is fundamentally different to the reality of how forces within open system interact with each other.

As ZUS point put, 'Architects seem to have lost the confidence to dance with the second-order effects and have even come to fear them. Much of 20th-century architecture and planning could form a catalogue of unanticipated consequences because the designers of the 20th century forgot how to navigate the push and pull of these forces, to let people in nature in as a part of the process" (Zones Urbaines Sensibles 2019, 304). This fear, or willingness to eliminate uncertainty, stemmed from a desire for predictability and stability in design outcomes, often driven by a quest for rightness or profit.

To effectively deal with second-order effects, architects need to approach design with a combination of confidence in ignorance, pragmatism, and optimism. They must acknowledge that they cannot foresee all outcomes and embrace a certain level of uncertainty in the design process. Moreover, navigating second-order effects requires a sense of gamesmanship – an ability to adapt, respond, and sometimes even exploit the emergent properties that arise (Zones Urbaines Sensibles 2019, 304). This aligns with the principles of the [Performative](#) approach which I am after.

In essence, to wield second-order effects means understanding that architecture is not just about creating static structures but about shaping dynamic environments where human life unfolds. It involves recognising the interconnectedness of elements and being responsive to the evolving complexities of society, culture, and nature.

Self-referential

The act of representation, which has a crucial role in the articulation of architecture, can sometimes lose its original purpose and become an end in itself. Consequently, it separates from what it represents and begins to refer only to itself (Agrest 2000, 165). The revived interest in architectural drawings made them more consumable and self-referential, in the sense that they are less concerned with what they represent than with their own constitution (Evans 1986, 5). Propelled by the speed and efficacy of new [Media](#), architecture becomes more and more obsessed with itself and buildings start to represent other buildings, "thus transferring their history and myths to the new" (Agrest 2000, 172). It is this self-referential tendency through which architecture increasingly engages with its own problems, which becomes controversial given the claims of social and public engagement it enunciates. Confined in its self-evidence, the current condition of architectural [Representation](#), defined by [Hylomorphic Schemas](#), remains "detached to an almost absolute degree from the spatial phenomena it wishes to examine and produce"(Kousoulas, 2022, p.27). The overemphasis on self-reference, driven by reliance on [Precedents](#), strengthens the prevalent [Dogmatic Image of Thought](#) and leads to a disconnection from external realities and a focus on internal discourse, raising questions about architecture's social relevance and competency to initiate any meaningful change. This conditions a case of [Alienation](#) par excellence.

A possible explanation for this tendency is the incapacity of the building industry, let alone architecture, to respond adequately to the rapacious megalopolitan proliferation. Keneth Frampton (2001,24) notes, that "where technology, as the maximization of industrial production and consumption, merely serves to exacerbate the magnitude of this proliferation, architecture as craft and as an act of place creation is excluded from the process." Here, however, an interesting paradox occurs. Although regarded almost as an afterthought to the formative urban processes, architecture's growing popularity has been growing inversely proportional. Arguably architecture has never been more popular. Obviously this can be credited to [Contemporaneity](#) and the proliferation of [Images](#) in online [Media](#). However, I identify introspective desire of current practice to be a consequence of the overwhelming feeling of "political powerlessness and cultural disillusionment many architects feel about their effective contribution to the built world"(Oxvig 2019, 174). Unfortunately, as a way to compensate for that, looking for meaning that can justify their career choice, architects have decided to face inwards.

Set

It is in the polishing, careful arrangement, and sanitisation of architectural output that I also draw another connection, this time to the act of “framing” and “moulding” which Deleuze explores in “Cinema 1: The Movement-Image”. I find a striking resemblance in the processes that precede both acts and the processes that are employed when producing architectural [Image](#)ry. Deleuze associates the act of moulding with photography, as it “organises the internal forces of the thing in such a way that they reach a state of equilibrium at a certain instant (immobile section).” It is precisely the immobility of the moulded state that resonates with the prevalent mode of [Architectural Output](#), which is later on translated to the actual outcome in the form of a built edifice and reflected in the problematic [Image-Object Fixation](#). The act of framing defined as “the art of choosing the parts of all kinds which became part of a set” is again evocative of the curatorial process of picking the right people, textures, cars etc. in a visualisation or an [Any-space-whatsoever](#). The sets themselves are “closed systems which are defined by discernible objects or distinct parts”. Deleuze identifies “the shot” as the element that breaks the deadlock of the moulded set. It is the force that presents the changing relations and modified dependencies within the set or between sets. However, this force is missing in architectural practices. In their moulded state, the relationships remain stagnant, refusing to acknowledge the external forces that will immediately influence the fragile equilibrium within the sanitised set, if it ever manages to be actualised.

Architectural [Representation](#) possesses all the qualities of a set, it is an artificially closed system, it is defined by the discernible object and distinctive parts that constitute it, and importantly it is defined by a frame. What lies beyond the frame is the “[Out-of-field](#)” - that which remains neither seen nor understood, yet very much present. To tackle the out-of-field that remains beyond the frame of representation is very much an act of “deframing” or as Deleuze describes it the confirmation that “the visual image has a legible function beyond its visible function.” That is to explore what processes have been consciously left out and what networks lay beyond or behind the initial framing. To defame is an act of [Elucidating](#), to engage in practices that see more and see differently.

As a part of my [Performative](#) approach I will aim to create a different kind of an architectural set. One that is not defined by its static appearance, but rather by the actions that it enables. [Hosting](#) performative action in those sets can reintroduce the “shot” that Deleuze defines as the key element which breaks the standstill of the moulded set. In fact, the “digital garden” which you are currently exploring does just that. In its explorative nature, reliant on your interaction with the singular points in this networks, it links them together in unpredictable ways, generating new storylines with each iteration. Similarly the “Booklet of Exercises in Visual Literacy”, made up of a series of [Exercises](#), acts as a set, a field, a stage which

"awaits events that establish the manner of play, which never repeat exactly" (Stoner 2012, 69), thereby constituting a performative archive.

Signifying Semiotics

Traditional signifying semiotics have a common understanding of [Images](#) as signs, or as Martin Schwab (2000, p.110) puts it “signs that present their meaning in an iconic mode.” Meaning, that they communicate through structural analogues of what they want to convey, and as a mode of re-presentation rely on mimesis or similarity. This becomes problematic once we try to analyse what images do, rather than what they represent. As Boumesteer points out, "the danger in this reasoning is to assume that images start with their ‘physical’ appearance - if an individual regards an image as an image, then that individual is already primed to see an image" (Boumesteer 2014, 71). To make this clearer, by perceiving the image as a [Representation](#) of something, all other non-cognitive, non-visual potentials are disregarded (Rubinstein and Sluis 2013, 37).

An example that everyone can relate to are photographs. The representational content of photographic images often captures our attention, making it challenging to recognise the photograph's material essence. This difficulty extends to developing a strategic and critical understanding of the social and [Technological Substructures](#) that uphold the photographic image, as described by Katrina Sluis (2018). Photography, in this regard, has long epitomised the operational logic of communicative capitalism, where users tend to focus on the surface-level representational content rather than the materiality of the photograph itself or the intricate systems involved in its production and circulation (Burbridge 2022, 65). Therefore, "to see what the photograph is of, we must first repress our consciousness of what the photograph is" (Burbridge 2022, 64).

To overcome these limitations, there's a call to redefine how we understand images. Rather than constantly interpreting their meanings, there's an interest in defining images by their operational character and what they do (Farocki 2004). This suggests a shift towards understanding images based on their functions and effects within cultural, social, and political contexts, or, in other words towards an understanding of [A-Signifying Semiotics](#)..

Technological Substructures

The technological substructures that uphold digital [Images](#), though integral to their existence and functionality, largely remain invisible to the end user. This hidden complexity underlies their paradoxical nature, which is at once visible and invisible, present and absent. As Rubinstein and Sluis (2013) note, digital images embody both the linear representational logic of Cartesian space and the recursive nature of algorithms.

Digital images are supported by a non-representational, socio-technical system, yet they become humanly understandable through [Representation](#). The functional backend takes the form of the elusive "cloud", which although seemingly ephemeral, has a very significant physical footprint, "The networked image has an infrastructure that requires labour and capital to produce a constant energy source, the mining of raw materials, the manufacture of electronic devices, the launching of space rockets, the construction of server farms, the laying of cables, and the deployment of transmitters and receivers" (Dewdney 2022, 26). This creates a mutual dependency between the representational and non-representational aspects of digital images (Center for the Study of the Networked Image 2021). Their dual nature becomes apparent when approaching contemporary visual studies through the lens of the [Networked Image](#). Seen from this perspective, while the front end of computing—the legible cultural layer as termed by Lev Manovich—continues to function through representation, the back end—the illegible computer layer—is working towards the [Industrialisation of the Symbolic](#), serving an information economy (Dewdney 2022, 23).

The evolution of visibility into a more-than-visual and non-representational era signifies a shift from the ocular-centric worldview established by the European Enlightenment. Driven by computation, this shift demands new ways of thinking about the human sensorium (Dewdney 2022). In this new paradigm, representational and computational systems function in synergy. Algorithms operate in continuity with representation, ensuring that at the user experience level, the visual integration remains seamless, while at the computational level, images are intertwined with algorithmic software, enabling various transactions (Dewdney 2022, 24). Due to the extreme integration between those systems, "The assumption of a transparent representational relationship between the image and reality is assailed" (Dewdney 2022, 24). This emphasises the importance of [A-Signifying Semiotics](#), which focus on the deeper entanglement of images within complex technical systems, where their true workings lie hidden within the "black box" of computation. It follows that any critique of technical images requires [Elucidating](#) these inner workings in order to avoid remaining visually illiterate (Flusser 2000).

Ultra-stable

The axiomatic nature of representation lies at the core of its conception as a closed system. Following the argument laid out by Stavros Kousoulas (2022, 35) in his book “Architectural Technicities”, rooted in linear causality such a system is incapable of evolution due to its inability or denial to accommodate any external influence. Hence, we can conceive of architectural [Representation](#) as an ultra-stable system with no potential for transformation or evolution. In other words, nothing can be added to a naturally deductive system, exclusively reliant on axioms and theorems. The outcome can be observed in the blatant [Self-referentiality](#) of architectural representation, evident in the tradition of the [Precedent](#) - a previous account which has proven to be successful and therefore acknowledged as worthy of reproduction, reformulation and [Recycling](#). This further distances architectural [Primate](#)-worker from the real world, setting up the ground for [Alienation](#) to proliferate. However, as Deleuze (1997, 16) points out, a system which is closed - even one which is very closed up - only apparently suppresses the [Out-of-field](#), and in its own way gives it an even more decisive importance.

Visual Bonds

The notion of visual bonds, termed by Dziga Vertov, reflects the interconnectedness mediated by images that define our [Contemporaneity](#), as discussed by Cox and Lund (2016). In our current globalized and digitized society, the proliferation of [Images](#) constitutes what Cox and Lund term an "iconomy," governing our imagination and contributing to what Stiegler would describe as a disindividuation (Cox and Lund 2016, 12). However, alongside this, it also creates a shared image-environment, referred to as a 'visual bond' by Vertov, which has the potential to facilitate large-scale transindividuation.

Guy Debord, in the fourth thesis of "The Society of the Spectacle," argues that the spectacle is not merely a collection of images but a social relationship mediated by images (Cox and Lund 2016, 11). This highlights the role of images in shaping social interactions and shared experiences, contributing to a general sharing of time and establishing a common relation to images and symbols, in societies characterized by fragmented attention spans and transient communities (Steyerl 2012).

This implies that our images, and by extension our interactions, are heavily influenced and shaped by the visual bonds enabled by the spatio-temporal compression of online [Media](#), which upholds Debord's theory that the society of the spectacle, "is an expropriation of our images, of our capacity to communicate and take part in symbolic exchange" (Cox and Lund 2016, 11).

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