

WHO'S STUPID NOW: ARCHITECTURE, INTELLIGENCE AND TRANSDISCIPLINARITY
SPRING/SUMMER 2025

Introduction

Transmodality, or What it Means to Have Intelligence
Stavros Kousoulas and Andrej Radman, editors

The Transcendental Stupidity of Architecture
Tim Gough

Cuckoo
Leha Galanopoulou

Everyone Knows Who is Stupid Around Here
Sinan Cem Kızıl and Bengisu Derebasi

Overcoming Disciplinary Stupidity:
Collective Creation for Diversity and Inclusion in Public Space Design
Mar Muñoz Aparici and Maurice Harteveld

Reconfiguring the Soft Operation field:
Architecture of Collective Metabolisms
Eda Yeyman and Ayse Sentürer

Where Lies the Problem?
On the Determination of Belief, Political-Libidinal Proletarianisation and Alter-Automation
Justus Schäfer

Review Articles by Giovanni La Varra, Alberto Cervesato and Tommaso Antiga,
Jean Rojanavilavudh, Mees van Rhijn, Miguel Borst, Koen de Nie and Qiyu Chen

Contents

- Introduction
- 3 Transmodality, or What it Means to Have Intelligence
Stavros Kousoulas and Andrej Radman, editors
- 12 The Transcendental Stupidity of Architecture
Tim Gough
- 21 Cuckoo
Lena Galanopoulou
- 33 Everyone Knows Who is Stupid Around Here
Sinan Cem Kızıl and Bengisu Derebasi
- 49 Overcoming Disciplinary Stupidity:
Collective Creation for Diversity and Inclusion in Public Space Design
Mar Muñoz Aparici and Maurice Hartevelt
- 61 Reconfiguring the Soft Operation field:
Architecture of Collective Metabolisms
Eda Yeyman and Ayse Sentürer
- 75 Where Lies the Problem?
On the Determination of Belief, Political-Libidinal Proletarianisation and Alter-Automation
Justus Schäfer

Review Article

- 93 Critique of Forest Intelligence:
Scenarios for Architecture and the City in the Twenty-First Century (and Beyond)
Giovanni La Varra, Alberto Cervesato and Tommaso Antiga
- 105 A Fantastic Guide to the Cybersiren:
and Everything Else You Need to Know about Love, Death, Origins, Characteristics
& Chronicles of the Neapolitan Port
Jean Rojanavilaivudh, Mees van Rhijn, Miguel Borst, Koen de Nie and Qiyu Chen

Transmodality, or What it Means to Have Intelligence

Stavros Kousoulas and Andrej Radman, editors

Delft University of Technology, the Netherlands

Corresponding Author Email

S.Kousoulas@tudelft.nl

A.Radman@tudelft.nl

ORCID

Stavros Kousoulas <https://orcid.org/0000-0002-0285-0653>

Andrej Radman <https://orcid.org/0000-0002-8914-1197>

How to cite

Stavros Kousoulas and Andrej Radman, 'Transmodality, or What it Means to Have Intelligence', *Footprint* 36 (2025): 3–10, <https://doi.org/10.59490/footprint.19.1.7867>

Submitted 16 October 2024

Revised 9 January 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

Footprint 36 features eight contributions that each in their own way examines how the discipline of architecture may contribute to resisting stupidity and relearning how to think by moving beyond disaffected apocalyptic forms of reasoning, imagining and creating. In the context of the Fourth Industrial Revolution and the Sixth Extinction, we propose to reframe the concept of stupidity as the inability to discern between the singular (remarkable) and the ordinary (trivial), and not to confuse it with a failure to offer the 'right' solution (optimisation). Following Henri Bergson's understanding of problematisation, the concept of stupidity that we collectively examine is thus understood as the incapacity to properly determine a problem. Its near synonym 'idiotcy' by definition prevents us from seeing beyond our narrow interests and ready-made solutions, thereby blocking environmental awareness and the possibility of trans-individuation, that is, of living and transforming collectively.

Keywords

Intelligence, archiving, instituting, complexity, proletarianisation

Transmodality, or what it means to have intelligence

Halfway through his *Difference and Repetition*, Gilles Deleuze poses a startling question: how is stupidity possible? While stupidity notoriously eludes descriptive analysis, it has been a major concern for thinkers and philosophers for millennia. The Stoics formulated *sapientia* (intelligence) as an ongoing struggle against *stultitia* (stupidity). However, as Miguel de Beistegui recently underscored, stupidity is *not* the opposite of intelligence, and it is not reducible to ignorance.² According to Avital Ronnell, stupidity is neither a pathology nor an index of moral default, and yet it is linked to the most dangerous failures of human endeavour.³ It is both the reason for and the consequence of what Bernard Stiegler has diagnosed as today's universal condition of proletarianisation, defined as a generalised loss of knowledge.⁴ Stupidity, therefore, is not to be confused with a cognitive or psychological shortcoming. It is systemic insofar as it has become a planetary condition that is as produced as it is maintained, sustained, and occasionally actively promoted.

Stupidity has arguably become ubiquitous despite, or perhaps because of, the dominance of terms that belong to what Orit Halpern and Robert Mitchell call the 'smartness mandate' (smartphones, smart cars, smart homes, smart cities, whereby 'smart' first and foremost means 'automatic' (automatised statistics)).⁵ While stupidity has traditionally been the object of criticism, the acute self-referentiality of the sciences, philosophy and the avant-gardes has effectively rendered them inadequate to this task. We are no longer in the realm of critique, as the critical moment itself seems to be occurring behind our backs, threatening to obliterate the vital possibility of thought

itself. Terms such as ‘uncertainty,’ ‘risk,’ ‘complexity,’ and ‘crisis’ fail to convey the irreversibility of the end of an era that used to define itself through ‘rational’ processes.⁶ The question of stupidity is thus not exhausted by the discovery of a negative limit to knowledge. If we agree that – apart from climate thermodynamics and the anthropogenic deterioration of habitat and welfare – there is also an informational loss of potential that leads to cultural destruction and behavioural standardisation, then stupidity as proletarianisation comes close to entropy or a gradual decline into homogeneity.

Footprint 36 features eight contributions that each in their own way examines how the discipline of architecture may contribute to resisting stupidity and relearning how to think by moving beyond disaffected apocalyptic forms of reasoning, imagining and creating. In the context of the Fourth Industrial Revolution and the Sixth Extinction, we propose to reframe the concept of stupidity as the inability to discern between the singular (remarkable) and the ordinary (trivial), and not to confuse it with a failure to offer the ‘right’ solution (optimisation). Following Henri Bergson’s understanding of problematisation, the concept of stupidity that we collectively examine is thus understood as the incapacity to properly determine a problem.⁷ Its near synonym ‘idiocy’ by definition prevents us from seeing beyond our narrow interests and ready-made solutions, thereby blocking environmental awareness and the possibility of trans-individuation, that is, of living and transforming collectively. According to Stiegler, this is an issue of individuation and disindividuation:

If we are able to be stupid, it is because individuals individuate themselves only on the basis of preindividual funds (or grounds) from which they can never break free: from out of which, alone, they can individuate themselves, but within which they can also get stuck, bogged down, that is, disindividuate themselves.⁸

N-1, the formula of immanence

It is indeed ironic that, in an era dominated by artificial intelligence and so-called smart solutions, stupidity has become ubiquitous. One could argue that stupidity is, in fact, our most urgent problem. Cognitively and behaviourally, it manifests as scepticism (denialism, conspiracy theories, cynicism), while at systemic and institutional levels, it gives rise to authoritarianism, war, resource depletion, and mass extinction. Alongside the thermodynamic entropy driving climate change, we witness habitat destruction, welfare degradation, and the informational loss of potential that leads to cultural destruction and behavioural standardisation.⁹ Under these conditions, we might ask: What does it mean to resist stupidity and relearn how to think? We might seek guidance from the

seventeenth-century philosopher Benedict Spinoza, who posed a similar question: Why do men fight *for* their servitude as stubbornly as though it were their salvation?¹⁰ The paradox of desiring one’s own oppression constitutes a fundamental ethico-political problem that not only persists but has intensified in both scope and complexity.¹¹

Moreover, this problem will continue to perplex us as long as we remain unwilling to challenge certain orthodoxies concerning the nature of free will. According to Spinoza, ‘men believe that they are free, precisely because they are conscious of their volitions and desires; yet concerning the causes that have determined them to desire and will they do not think, not even dream about, because they are ignorant of them.’¹² It is precisely these incorporeal yet real (quasi) causes, as effects of spatiotemporal dynamisms, that we must turn our attention to in order to map the continuously changing virtualities. The incommensurability between the virtual and the actual offers a way out of the structuralist, totalising fallacy in which the whole is merely the sum of its parts. Mereology, or part-to-whole relation, gives way to mereotopology, which aligns with Bergson’s formula of the virtual – a non-totalising whole that exists (or better, subsists) alongside the actual parts.¹³ This implies that there is no simple one-to-one correlation between the action received and the action executed. Put succinctly: no mereology – no mechanicism with predetermined outcomes or solutions that extrapolate the future from the past.

Mereotopology, or a theory of parts and boundaries, becomes indispensable for distinguishing between the significant and the trivial. However, this distinction should not be confused with the eternal opposition between necessity and contingency. Instead, it demands a speculative pragmatist disposition based on a kind of tinkering, best described as a shift from the mechanism of ‘if-then’ to the machinism of ‘what-if’.¹⁴ What there is (ontology) and what we are to do (ethics) become mutually determining, reciprocally defined, and radically open. In other words, one does not step back or ascend to a higher level (N+1) to gain a synoptic perspective; rather, one intervenes directly in the causal fabric of reality to draw out salient points.¹⁵

To do this, one must be ‘flush’ with the world (N-1).¹⁶ If N+1 represents the formula for transcendence, N-1 could be understood as the formula for immanence, which reverses the subordination of time to movement.¹⁷ Time is not merely a measurement of movement; when unhinged, it frees us from our ‘destiny’. The defatalising mereotopology does not reduce all contingent things to a necessary concept, but instead relates each singular concept to the variables that drive its mutation.¹⁸ This process grants us access not to the future, but to futurity as a perpetually transforming relationship between past and present:

implication, complication and explication. In the words of Manuel DeLanda:

If, like mathematicians, we use the variable "N" to indicate the number of dimensions, we can say that *intensive thresholds always have N-1 dimensions*: points in a line, lines in a surface, surfaces in a volume. The reason why this is significant is that in a materialist metaphysics the structure of possibility spaces must always be immanent not transcendent, and as Deleuze argues, transcendent forms of determination always exist on a higher dimension than the space in which a material process unfolds. That is, transcendent determination is always $N+1$. Aristotelian essences, for example, exist on a higher ontological plane than that of the individual entities they formally determine, the level of species or genus, endowing these individuals with homogeneity and unity from above. The immanent structure of possibility spaces, on the other hand, "however many dimensions it may have, ... never has a supplementary dimension to that which transpires upon it. This alone makes it natural and immanent".¹⁹

Once again, the most general definition of stupidity is the inability to discern between the singular and the trivial. It is not a failure to offer the right solution but rather a disorientation of the problem itself – either through overly myopic considerations or ready-made solutions. Arguably, all poorly posed problems are technologically and technocratically produced. Consequently, what is needed is a broad understanding of technology, which we propose to substitute with the more inclusive term 'technicity' – the entanglement of humans, the environment, and technology.²⁰ Our approach, which connects architecture, intelligence and transdisciplinarity, focuses on the technicities of archiving and instituting as a viable antidote to stupidity.

Modes of possession

When one refers to immanence, then one falls in line with a very peculiar philosophical trajectory. It is a trajectory that, from the Stoics to Bruno and from Spinoza to Nietzsche, wishes to prioritise the event in favour of the 'being' that undergoes the event. Quite the opposite, the subject is no longer undergoing anything since it does not exist in advance. The subject is produced by the event, so much so that for these thinkers, it would be better named a superject. In the same spirit, the object is also produced eventfully and does not pre-exist; in following a transformative curvature, a line of individuation, the object becomes an objectile. The couple superject-objectile, birthed in and through events, is now set to replace the fixed subject-object binary and we owe its coupling to a very unorthodox reading of admittedly one of the most intelligent and productive philosophers of all time: Gottfried Wilhelm Leibniz and Deleuze's engagement with his work. Now, both

Leibniz's grandeur and Deleuze's radical take on him are well beyond the scope of this introduction. Nonetheless, there is a crucial point (pun intended, as will soon be clear) that manages to introduce an equally radical (and admittedly much needed) perspective on how we can understand (architectural) intelligence.

With Leibniz, the rational morphs into the relational, regaining its original meaning (from the Latin *ratio*); his famous variety of 'reasons' – *ratio essendi*, *ratio existendi*, *ratio cognoscendi*, *ratio fiendi* – are not principles but cries for a thinking that operates relationally: the logic of relations of identity, relations of existence, relations of knowing and eventually relations of continuity.²¹ As such, the core concern of metaphysics shifts: questions of being are no longer the most pressing, but rather, questions of having.²² In line with a thinking that prioritises the relational event, one no longer asks what it is to *be* intelligent but what it means to *have* intelligence, to involve and be involved in relations that can amplify or diminish your acquired (and, therefore, always contingent) intelligence. Such are the Leibnizian predicates, not nouns-statements-objects regarding a subject but verbs-possession-objects that form a superject. Therefore, Deleuze will add that when the object becomes an objectile then it encounters a group in transformation and when the subject becomes a superject then it becomes a point of view.²³ The shortest definition of a point of view, according to Deleuze, is that it subsumes a series of transformations through which the objectile passes.²⁴ At this point monadism could be said to encounter nomadism. The nomadic subject 'consumes and consummates each of the states through which it passes, and is born of each of them anew'.²⁵ If this feeling is mine (possession), then there must also be a 'me' (conjunctive synthesis).

Following his radical reading of Leibniz, as well as the conceptual injections that come directly from other philosophers (let's not forget that the superject is a term we owe to Alfred North Whitehead, almost two centuries after Leibniz's death), Deleuze claims that a superject is that which envelops, implicates, complicates and explicates, or, even better, folds objectiles: in short, a superject folds variable curvatures.²⁶ According to Deleuze, Leibniz is intentionally confusing us here. Yes, the superject and the point of view are simultaneously one and the same thing, yet he is quick to add that the point of view is the modality of the subject: the point of view is its inseparable mode, but it is not the point of view that defines the subject.²⁷ In agreement with a metaphysics that moves from being to having, the subject is not the point of the view; the subject *has* a point of view.²⁸ It has points of view (and can have others) precisely by being able to occupy and envelop variable curvatures; the superject, therefore, is the affective folding

of points of view and those points of view are the modes that determine it by dint of the folding act. From modes of existence, we move to modes of possession.

Why is it, however, that points of view become so important in our approach towards intelligence? As outlined before, our most general definition of intelligence is the capacity to properly determine a problem. We are, nonetheless, aware that there is a term in the above definition that needs clarifying, if we are to avoid any N+1 hegemonical a priori. Therefore, the 'properly' in determining a problem itself needs to be determined. That is precisely our goal for the remainder of this introduction. To achieve that, let's complement our previous definition of the point of view: it is no longer merely the point from which a metamorphosis of the object (the objectile) is revealed, but, crucially, the point from which one becomes able to arrange cases. As Deleuze claims, 'that is fundamentally the point of view: arranging contraries, arranging inverses, arranging opposites'.²⁹ Deleuze further claims that one can only pose a problem if one is able to occupy a point a view according to which cases might be arranged corresponding to that problem.³⁰ He goes on to provide an example by referring to astronomy:

If you take the planets, you will note an insane rotation. The rotation of the planets is such an irregular curve that one must give up on everything, except if you find the point of view. The point of view is the sun. That works for the planets and for different planetary movements. But if it works for the planetary system, that doesn't work for the star system. One has to find another point of view.³¹

Such is the power of the point of view: it immediately asks for a de-universalisation of perspectives since what works for posing one problem, can very well be catastrophic for another. The point of view is the N-1 operator, immanence in action. It unleashes the creative potential of a radical perspectivism that should not be confused for an 'everything goes, and each can have their opinion'. It's not 'to each their point of view' but, quite radically, that 'truth refers to a point of view'.³² In a problematic objectile, the intelligent point view is the one that can not only subsume its series of transformations but also permit the arrangement of cases that allow the problem to be examined precisely in its continuous variations.³³ Now the reason for our previous insistence on the singular and the trivial (the ordinary) becomes apparent.

I see you

For a point of view to be able to perceive the transformations of a problem it needs to be able to perceive the events that transform it, the inflections in the curvature of

its individuating line. That is what the singular stands for: points of inflection, events of transformation, moments of envelopment. It is opposed to the trivial and the ordinary because they simply indicate a (spatial and temporal, ergo experiential) continuity of inertia. The singular is the remarkable gasp of transformation, the sigh (for better or worse) for that from which there is no return. To operate on a problem implies precisely this, and that is what a Leibnizian analysis is: to occupy a point of view that can allow you to perceive what is singular and what is ordinary in a problem ('your' problem) that makes life both worth living and unbearable simultaneously. As Deleuze wonderfully puts it:

Take your life, and do your own surgery, your logical surgery. This will be in your life as you see it, extracting singularities, that is, all the moments that constitute events. That happens a lot depending on the scale: a birds' eye view, a close-up view; there are lots, but it matters little. That is, in the end, at a spot where it seemed ordinary, you will perhaps see that everything was already singularities. There are perpetually singularities going into singularities, but you also find the opposite, that where you thought something was singular, it was ordinary ... The coincidence of two ordinaries is required for there to be a singularity.³⁴

Everything becomes an issue of (schizo)analysis, both of what has occurred and of what is yet to happen. Therefore, the capacity of a point of view to arrange cases in order to properly determine a problem, affects both archiving and instituting. If to occupy a point of view is to express clearly the small part of the world that is linked directly with your body, then what about those events that you did not perceive directly in the past (archiving) or the ones that are yet to come (instituting)? The response is that clarity itself needs to be understood in gradients. What I experience is clear to me but, thankfully, I can occupy points of view of what others have experienced in the form of a knowledge that is now exteriorised (ex-organised and exosomatized); Leibniz would call it 'blind knowledge'.³⁵ That is why, Leibniz would add in an almost Spinozian fashion, the best soul is the one that will be capable of enlarging its region of clear expression.³⁶ The degree of someone's intelligence (the degree of perfection or wisdom in Leibnizian terms) is directly connected with their field of vision and with the increased multiplicity of points of view they can occupy.³⁷ What stops us then? Why do we act stupidly?

The same way one has intelligence, a superject has stupidity. The stupid, for Leibniz, is the damned: it continues to express the whole world, but its subdivision is reduced to zero, its points of view are diminished, reduced to only one, interested only in the things that are of immediate relation to it.³⁸ The stupid therefore is the one who

claims to possess a universal point of view; stupidity, or, better said, idiocy, is the direct effect of the N+1, where all cases are literally arranged according to what suits 'you', and therefore that 'you' becomes a universal 'you'. Leibniz is at his best when he claims that the 'damned person is not eternally damned but is forever damnable and damns itself at every moment.'³⁹ To be an idiot is a choice and admittedly a soothing one, since it literally entails doing what seems to be best for you, what is in your interest. Moreover, to be stupid is energetically mindful, since you do not need to spend any effort in occupying another point of view besides of the one immediately attached to your body. Stupidity is systemic precisely because it is so easy to be stupid and escaping its (monetised, profitable and overwhelming) allure is, paradoxically, a question of self-enjoyment that is achieved only by going beyond oneself. As Deleuze claims:

Whatever the abomination of the world might be, there is something that cannot be taken from you and through which you are invincible. This is not your egotism ... It's certainly not your egotism; it's not your tiny pleasure about being "me." It's something much more grandiose that Whitehead called precisely *self-enjoyment*, that is, this kind of vital heart in which you contract your elements, whether these are elements of a music, elements of a chemistry, vibratory waves, etc. ... and become yourself by contracting these elements and by turning yourself back towards these elements.⁴⁰

The issue therefore is how can we escape our damnation, our collective idiotic fate, by figuring out ways in which we can enjoy ourselves through going beyond ourselves, syncing with both the objectiles and points of view that make us, as well as with the objectiles and points of view that we ourselves are and can be for others. How can we, in other words, sense one another in a manner that expresses both the fact that we are bound (one) and yet differ (many). In such an understanding of self-enjoyment, what becomes critical is the amplitude of points of view we can both occupy and allow ourselves to become for others; as such, architecture becomes literally vital, since it has the capacity to both construct and remove points of view, to archive expressions of experiential regions (the manner, for example, that light enters through the well-established figure of a window) as well as institute regions we are yet to experience (the complete opening of the façade that now itself becomes a window, therefore altering the notion of light itself). In both cases, intelligence is no longer confused with attaining universal ideas. Intelligence, its architectural variations included, becomes the self-enjoying art of going beyond the given through technicities that, like a *pharmakon*, cut both ways.

The sense of the possible

Such pharmacological technicities are responsible both for sedimenting poorly posed problems (as 'poison') and for contributing to the regeneration of critical thinking (as 'remedy').⁴¹ Crucially, any research on technicities demands a novel form of transdisciplinarity that is daring enough to follow a problem wherever it leads, which inevitably calls for the transgression of disciplinary boundaries. The N-1 category of the 'interesting' or 'significant' displaces the N+1 category of 'truth' or 'essence', and only transdisciplinarity can save us from the stupidity inherent in the platitudinal circuits of knowing and experiencing. Intelligence, therefore, becomes the sense of the possible. It is found in what is simultaneously personal and universal: in the self-restraint of the physicist searching for hypothetical particles; in the unease of the heterodox economist confronting 'market-based' solutions; in the architectural designs that foster different modes of life; and in the artistic endeavour to express what cannot be expressed otherwise. Such examples suggest that intelligence is inseparable from a certain 'awareness' and 'care', and, second, always engaged in a struggle against the tendency toward closure inherent in its conditions of existence. What binds these two together is the initiation of a process whereby one falls out of phase with oneself by shedding givens and preconceptions (formerly known as ideology).

If the institution is the expression of archiving processes that externalise (ex-organise) and store its living memory, and if the archive is the foundation of instituting processes that solidify a collective, then the very act of instituting – which sustains collective intelligence – becomes inconceivable without novel forms of archiving.⁴² Rather than merely storing and indexing past solutions, the archive acts as a 'memory of the future', indicating what kinds of actions correspond to given conditions. By concentrating on the technicities that institute by archiving, and that archive by instituting, one counters forms of stupidity that exploit the archive to suppress the formation of a collective sense and sensibility. In sensing together a (pure) past so that a future can be articulated, both the past and the future are unhinged and thus pluralised, avoiding the hegemony of a controlling subject while simultaneously decolonising the very processes of archiving.

By acknowledging the heterogeneity of archiving and instituting – across time, space, and diverse histories and geographies – we propose to reconceptualise transdisciplinarity as transmodality.⁴³ The imperative is to engage with different modes of possession on their own terms, without imposing an external taxonomy or the principle of general equivalence from a dominant N+1 perspective. For instance, the enduring dominance of the Cartesian cogito – 'I think, therefore I am' – continues to overshadow

other modes of possession, ones that do not align with the self-assured light of reason. The sceptic stands as the enemy of the otherwise. We must challenge traditional Western representational forms of archiving in favour of processes that register minor modes of possession (or possible worlds) that make themselves felt without ever being fully present.

The N-1 approach is attuned to recognising differences that matter – a Batesonian difference that makes a difference. It promotes an archival and instituting technodiversity that corresponds to various forms of intelligence – forms that are both produced by and sustain different points of view and their modes of existence. Heterogeneous approaches to archiving and instituting open the potential for adopting diverse modes of sensing transmodally: from bio-diversity to techno-diversity to noo-diversity.⁴⁴ These approaches do not only challenge traditional binaries, such as those between the objective and the subjective, or between the known to be archived and the knower who examines it, but also reshape the very question of *what* can be archived. If we accept that what we archive determines who we are, then N-1 introduces a critical third term: how do different points of view archive differently?⁴⁵ The goal of N-1 is both to re-evaluate transdisciplinary reason – now understood through its transmodality – and to archive alternative modes of knowledge production that are often overlooked or entirely unacknowledged.⁴⁶

The quasi-stable regularities we encounter in actuality do not have a specific cause that can be demarcated and isolated but may only be understood as a heteropathic cascade producing an eventual 'because'.⁴⁷ As Gregory Bateson insisted, if effects were reducible to their causes, novelty would be utterly impossible: 'we used to ask: Can a computer simulate all the processes of logic? The answer was yes, but the question was surely wrong. We should have asked: Can logic simulate all sequences of cause and effect? The answer would have been no.'⁴⁸ *Footprint* 36 aims to fulfil the encyclopaedic ambition of creating a tentative archive for intelligence. If a transmodal archive serves as a monument to possibility – less a tomb and more a laboratory – it establishes a circuit that escapes the false immediacy of the present rendered as a past-future by creating a communication of potentials between different points of view. As Raymond Ruyer has it, 'memory is not the property of bodies. Bodies, or what appear as "bodies," are the property of memory.'⁴⁹ By understanding intelligence as the enactment of archiving and instituting processes that enable transmodal passages, we hope to present compelling examples of intelligence, its threats, the ways it can be archived, and the collectives instituted through this process – a people to come.⁵⁰

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. Gilles Deleuze, *Difference and Repetition*, trans. Paul R. Patton (New York: Columbia University Press, 1994 [1968]).
2. Miguel de Beistegui, *Thought under Threat: On Superstition, Spite, and Stupidity* (Chicago: University of Chicago Press, 2022).
3. Avital Ronnell, *Stupidity* (Champaign: University of Illinois Press, 2002).
4. Bernard Stiegler, 'The Proletarianization of Sensibility,' trans. Arne De Boever, *Boundary* 2 44, no. 1 (2017): 5–18. Cf. Robert A. Gorny and Andrej Radman, 'From Epiphylogenesis to Generalised Organology' in *Footprint* 30, ed. R.A. Gorny and A. Radman (2022): 3–19, <https://doi.org/10.7480/footprint.16.1.6291>.
5. Orit Halpern and Robert Mitchell, *The Smartness Mandate* (Cambridge, MA: The MIT Press, 2022). Cf. Bernard Stiegler, 'New Urban Engineering, New Urban Genius', lecture delivered on 22 November 2018 at Tongji University, Shanghai, https://www.academia.edu/37849730/Bernard_Stiegler_New_Urban_Engineering_New_Urban_Genius_2018_.
6. Bernard Stiegler, *The Neganthropocene*, trans. Daniel Ross (London: Open Humanities Press, 2018).
7. Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: Dover Publications, 1998 [1907]). Cf. Craig Lundt, 'Bergson's Method of Problematisation and the Pursuit of Metaphysical Precision' *Angelaki* 23, no. 2 (2018): 31–44, <https://doi.org/10.1080/0969725X.2018.1451460>.
8. Bernard Stiegler, *States of Shock: Stupidity and Knowledge in 21st Century*, trans. Daniel Ross (Cambridge: Polity Press, 2015), 46.
9. Sanford Kwinter, *Requiem: For the City at the End of the Millennium* (Barcelona: Actar, 2010).
10. Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, trans. Robert Hurley, Mark Seem and Helen R. Lane (New York: Penguin, 2008 [1972]), 31.
11. Gilles Deleuze and Félix Guattari connect Spinoza's question to Wilhelm Reich's *The Mass Psychology of Fascism*: 'the astonishing thing is not that some people steal or that others occasionally go out on strike, but rather that all those who are starving do not steal as a regular practice, and all those who are exploited are not continually out on strike.' Deleuze and Guattari, *Anti-Oedipus*, 31.

12. Benedict Spinoza, *Ethics, Spinoza Complete Works*, trans. Samuel Shirley (Indianapolis, IN: Hackett Publishing Company, 2002), 239.
13. Henri Bergson, *Matter and Memory*, trans. N. Margaret Paul and W. Scott Palmer (London: George Allen and Unwin, 1911 [1896]).
14. Brian Massumi, 'Virtual Ecology and the Question of Value', in *General Ecology: The New Ecological Paradigm* (London: Bloomsbury Academic, 2017), 345–73.
15. Reza Negarestani, 'Frontiers of Manipulation', Speculations on Anonymous Materials symposium (2014), <www.youtube.com/watch?v=Fg0IMebGt9I/>.
16. An a-personal, pre-subjective, extra-propositional and sub-representative reservoir of novelty which is paradoxically always already fully integrated into the (proto)social field.
17. Stamatia Portanova, *Whose Time Is It? Asocial Robots, Syncholonialism, and Artificial Chronological Intelligence* (Berlin: Sternberg Press, 2022).
18. Gilles Deleuze, 'On A Thousand Plateaus', in *Negotiations, 1972–1990*, trans. Martin Joughin (New York: Columbia University Press, 1995), 31.
19. Manuel DeLanda, 'Intensive and Extensive Cartography', in *Deleuze: History and Science*, ed. Wolfgang Schirmacher (New York: Atropos Press, 2010), 123; emphasis in the original.
20. Robert A. Gorny, Stavros Kousoulas, Dulmini Perera, and Andrej Radman, eds., *The Space of Technicity: Theorising Social, Technical and Environmental Entanglements* (Delft: TU Delft OPEN Publishing in partnership with Jap Sam Books, 2024), <https://doi.org/10.59490/mg.95>.
21. Gilles Deleuze, 'Seminar on Leibniz: Philosophy and the Creation of Concepts', Lecture 4, 6 May 1980, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-04-8/>.
22. Sjoerd van Tuinen, *The Philosophy of Mannerism* (London: Bloomsbury Academic, 2023), 86.
23. Gilles Deleuze, 'Seminar on Leibniz and the Baroque: Leibniz as Baroque Philosopher: Point of View', Lecture 3, 18 November 1986, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-03-5/>.
24. Ibid.
25. Deleuze and Guattari, *Anti-Oedipus*, 20.
26. Deleuze, 'Seminar on Leibniz and the Baroque', Lecture 3.
27. Ibid.
28. Ibid.
29. Ibid.
30. Ibid.
31. Ibid.
32. Ibid.
33. Andrej Radman, 'Generalised Chromaticism: The Ecologisation of Architecture', *The Journal of Architecture* 27 no. 4 (2022): 517–538. doi: 10.1080/13602365.2022.2122070.
34. Gilles Deleuze, 'Seminar on Leibniz and the Baroque: Principles and Freedom (2): Toward Impossibility', Lecture 7, 20 January 1987, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-07-6/>.
35. Gilles Deleuze, 'Seminar on Leibniz and the Baroque: Principles and Freedom (4): Monads and Singularities', Lecture 9, 3 February 1987, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-09-5/>.
36. Ibid.
37. Leslie Jaye Kavanaugh, *The Architectonic of Philosophy: Plato, Aristotle, Leibniz* (Amsterdam: Amsterdam University Press, 2007), 159.
38. Gilles Deleuze, 'Seminar on Leibniz and the Baroque: Principles and Freedom (5): The Tavern – Motives, the Soul and Damnation, Towards Progress', Lecture 10, 24 February 1987, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-10-5/>.
39. Ibid.
40. Gilles Deleuze, 'Seminar on Leibniz and the Baroque: Principles and Freedom (9): The Logic of the Event', Lecture 14, 7 April 1987, trans. Charles J. Stivale, <https://deleuze.cla.purdue.edu/lecture/lecture-14-5/>.
41. Bernard Stiegler, *What Makes Life Worth Living: On Pharmacology*, trans. Daniel Ross (Cambridge: Polity Press, 2013).
42. Intelligence, Instituting, and Archiving was the official topic of the sixteenth International Deleuze and Guattari Conference hosted by the Architecture Philosophy and Theory academic group at TU Delft, July 2024. The event focused on the three socio-techno-environmental regimes with a goal of revisiting the material-discursive ecologies of instituting and archiving practices as critical and creative endeavours that may counter systemic stupidity. <https://www.tudelft.nl/en/bk/over-faculteit/afdelingen/architecture/organisatie/groepen/theories-territories-transitions/architecture-philosophy-and-theory/research-publications/16th-deleuze-guattari-camp-and-conference-2024-intelligence-instituting-and-archiving>.
43. Rosi Braidotti, *Transpositions: On Nomadic Ethics* (Cambridge: Polity Press, 2006).
44. Yuk Hui, *Art and Cosmotronics* (Minneapolis: Minnesota University Press, 2021).
45. Stavros Kousoulas, *Architectural Technicities: A Foray Into Larval Space* (London: Routledge, 2023).
46. 'The formula for multiplicities is N-1, i.e. the ONE is what must always be subtracted ... the formula is N-1; suppress the unity, suppress the universal.' 'U as in *Un* (One)' in *Gilles Deleuze's ABC Primer, with Claire Parnet* (directed by Pierre-André Boutang, 1996). Overview prepared by Charles J. Stivale, Romance Languages & Literatures, Wayne State University, <https://deleuze.cla.purdue.edu/lecture/lecture-recording-3-n-z/>.
47. 'Unlike homopathic laws that have an additive character – producing highly predictable patterns of causal interactions – heteropathic laws are somewhat idiosyncratic – linking quite

different classes of homopathic properties across levels.'

Terrence W. Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York: W. W. Norton & Company, 2012), 155.

48. Gregory Bateson, *Mind and Nature: A Necessary Unity* (New York: E. P. Dutton, 1979), 58.

49. Raymond Ruyer, 'There is no Subconscious:

Embryogenesis and Memory', trans. R. Scott

Walker, *Diogenes* 36, no. 142 (1988): 24–46, 37, [https://doi.](https://doi.org/10.1177/039219218803614202)

[org/10.1177/039219218803614202](https://doi.org/10.1177/039219218803614202).

50. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: Minnesota University Press, 1987 [1980]), 345.

Biography

Stavros Kousoulas is assistant professor of architecture philosophy and theory, and research coordinator at the Theories, Territories, Transitions section at the Faculty of Architecture and the Built Environment, Delft University of Technology. He studied architecture at the National Technical University of Athens and at TU Delft. He received his PhD cum laude from IUAV Venice. He is the executive editor of *Footprint*. He is the author of the monograph *Architectural Technicities* (Routledge, 2022) and the edited volumes *Architectures of Life and Death* (RLI, 2021), *Design Commons* (Springer, 2022), *The Space of Technicity* (TUD Open, 2024) and *Noetics without a Mind* (TUD Open, 2024).

Andrej Radman is assistant professor of architecture philosophy and theory, and coordinator of the Ecologies of Architecture research group at the Faculty of Architecture and the Built Environment, Delft University of Technology. Over the past two decades Radman's research has focused on the nexus between architecture and radical empiricism. His latest publication is *Ecologies of Architecture: Essays on Territorialisation* (EUP, 2021). In 2023, Radman was honoured with the Mark Cousins Theory Award presented by DigitalFUTURES. This award recognises leading theorists in the field of architecture and design who have demonstrated forward-thinking perspectives in the field.

The Transcendental Stupidity of Architecture

Tim Gough

Independent architect, United Kingdom

Corresponding Author Email

tim@austinwinkley.co.uk

ORCID

Tim Gough <https://orcid.org/0009-0009-2505-4412>

How to cite

Tim Gough, 'The Transcendental Stupidity of Architecture', *Footprint* 36 (2025): 11–20, <https://doi.org/10.59490/footprint.19.1.7498>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

This article discusses, within the transcendental empiricism of Deleuze's philosophy, how stupidity comes to be seen as a positive possibility for thought. Nomad architecture, which is contrasted with the state science of architecture, has a certain stupidity about it, but this is nothing other than the stupidity which allows us access to the groundless ground, the field of the real, which can be perceived as a depth within the forms which architecture creates as an aftereffect. Examples are given, including that of the 2017 Grenfell fire and Anne Querrien's nomadic architectural work.

Keywords

Deleuze, nomadic, stupidity, transcendental, empiricism

Empirical stupidity

Architects sometimes do stupid things, and the consequences can be serious. On 14 June 2017 a fire occurred in a twenty-four-storey block of flats in London, spreading from one flat across the exterior and back into the building

in many locations, causing the deaths of seventy-two people. The immediate cause of the Grenfell fire was a defective fridge. The reason it became a disaster was a design decision on the part of Studio E Architects to cover the façade of the building in combustible materials, making up the thermal insulation and the outer cladding material. The cladding material was a so-called aluminium-composite panel, which is largely polyethylene – a highly flammable plastic. The technical building codes in the UK (known as Approved Documents to the Building Regulations) ruled out the use of such combustible materials as follows: 'In a building with a storey 18m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the external wall construction should be of limited combustibility.'¹ The wording of the rule is fairly straightforward. Even if it were not, or even if the rule did not exist, one might well regard it as simple common sense that cladding tall buildings in flammable by-products of the petrochemical industry is a stupid thing to do. As one lawyer noted in the public inquiry into the disaster, the polyethylene cladding is 'now openly described by some in the industry as petrol' and 'our understanding is that the ignition of the polyethylene within the cladding panel produces a flaming reaction more quickly than dropping a match into a barrel of petrol.'² [Fig. 1]

Stupid actions have hinterlands, which may also be populated by stupidities. For instance, one might inquire as to why in the case of Grenfell architectural training did not have the desired effect, given that the UK architecture profession is controlled by statute and registration precisely in order to ensure architects are properly trained so that they do not make stupid decisions resulting in loss of life or property. The reason is that although there are statements in the criteria for UK architectural education that require architecture students have knowledge

of building codes, the practical implementation of these criteria in UK universities has generally not lead, over the last forty years, to students being trained in the building regulations.³ Therefore a UK architect can, and usually does, come into the profession without having been taught the building regulations. Specifically, they will likely not have had a training to either acquaint them with the above paragraph about non-combustible materials, or to inform them about the logic behind that rule. Nor are there any specific requirements that their continuing professional development training subsequent to entry into the profession should give them this detailed knowledge.⁴

In turn, apparent strategic stupidities like this lack of training are enabled by a lack of clarity of language in the relevant regulations. For instance, in its criteria for architecture courses the Architects Registration Board states: 'The [architecture student] will have the ability to... understand the constructional and structural systems, the environmental strategies and the regulatory requirements that apply to the design and construction of a comprehensive design project.'⁵ I have no doubt that architecture students generally do have the *ability* to understand the regulatory requirements, of which the building regulations are part. But what good is it to have this ability if at no point in the training of an architect are they required to make use of this ability to actually understand – or, more clearly put, have knowledge of the contents of – those building regulations?

Nomadic stupidity

What have such surely purely empirical examples of stupidity got to do with architectural theory? One of my theses here will be that a properly architectural philosophy, or thought, does not or should not make the conventional distinction between theory and practice. It is often remarked that the discipline of architecture is a strange combination of art and science, or a strange combination of theory and practice. In that it joins other oddly positioned disciplines – disciplines that do not fit neatly into prevalent categories, being essentially transdisciplinary.⁶ Gilles Deleuze and Félix Guattari give a name to such disciplines: they are nomad sciences, in contrast to the royal or state sciences which do have such a neat categorical character. They have that categorical and rule-led character because the state gives them that character as part of its project to control and tame nomad sciences, and it is the nomad sciences that come first, both empirically and by right. Architecture has a particular place in this philosophy in relation to the question of the distinction between a nomad and a state science, precisely because architecture so easily slips into the role of a state science, a science that respects the theory/practice distinction but

also a science that is bound by rules and categories. Deleuze and Guattari famously distinguish the 'smooth space' of nomads and nomad sciences with the 'striated space' of the state and its associated state science; the rules and categories of the state science are part of the striations that are being referred to here.⁷

Deleuze and Guattari take the work of Anne Querrien in relation to architecture in order to provide examples of nomad science within architecture. It is worthwhile quoting here at length given the density of the text:

The work of Anne Querrien enables us to identify two of these moments; one is the construction of Gothic cathedrals in the twelfth century, the other the construction of bridges in the eighteenth and nineteenth centuries. [Footnote giving the source: Anne Querrien, *Devenir fonctionnaire ou le travail de l'Etat* (Paris: Cerfi). We have drawn from this book, as well as from unpublished studies by Anne Querrien.] Gothic architecture is indeed inseparable from a will to build churches longer and taller than the Romanesque churches. Ever farther, ever higher . . . But this difference is not simply quantitative; it marks a qualitative change: the static relation, form-matter, tends to fade into the background in favor of a dynamic relation, material-forces. It is the cutting of the stone that turns it into material capable of holding and coordinating forces of thrust, and of constructing ever higher and longer vaults. The vault is no longer a form but the line of continuous variation of the stones. It is as if Gothic conquered a smooth space, while Romanesque remained partially within a striated space (in which the vault depends on the juxtaposition of parallel pillars). But stone cutting is inseparable from, on the one hand, a plane of projection at ground level, which functions as a plane limit, and, on the other hand, a series of successive approximations (squaring), or placings-in-variation of voluminous stones. Of course, one appealed to the theorematic science of Euclid in order to find a foundation for the enterprise: mathematical figures and equations were thought to be the intelligible form capable of organizing surfaces and volumes. But according to the legend, Bernard de Clairvaux quickly abandoned the effort as too "difficult," appealing to the specificity of an operative, Archimedean geometry, a projective and descriptive geometry defined as a minor science, more a mathegraphy than a matheology. His journeyman, the monk-mason Garin de Troyes, speaks of an operative logic of movement enabling the "initiate" to draw, then hew the volumes "in penetration in space," to make it so that "the cutting line propels the equation"... One does not represent, one engenders and traverses. This science is characterized less by the absence of equations than by the very different role they play: instead of being good forms absolutely that organize matter, they are "generated" as "forces of thrust" (*poussées*) by the material, in a qualitative calculus of the optimum.⁸



Fig. 1: The Grenfell Fire, London 2017. Source: https://twitter.com/Natalie_Oxford/status/874834909004746753/photo/1.

What is interesting about the career of Anne Querrien is that she attends to historical research that has theoretical implications in an essentially transdisciplinary manner that allows those theoretical concerns to impact back on the so-called history so that the manner in which the history is viewed is itself transformed. This bespeaks a desire to cross boundaries – in other words, to be a nomad, specifically an architectural nomad – and the word ‘desire’ here must be given a specifically Deleuzian/Guattarian understanding in the sense that for them, desire is predicated not on a lack for a desired thing, but is rather a field, an element (in the sense of ‘being in your element’), a space wherein something happens, where the becoming that is proper to the nomad is given reign. Deleuze and Guattari will give this space of desire many names, including the plane of consistency and body without organs; this space of desire is closely aligned to the smooth space of the nomad. Querrien’s transdisciplinary desire extends to architecture itself – or rather, to a nomadic architecture that in very concrete fashion questions the way in which architecture as a state science traps communities and funnels capitalism in a destructive manner, as shown by her interview *Making a Rhizome, or Architecture after Deleuze and Guattari*, where she and her colleagues outline a community-led collective practice of convivial architecture (invoking Ivan Illich) that ‘rather than looking for the material value of profit, ... creates the conditions for a liberating experience that changes both the space and the subjects.’⁹

Returning to the long quotation from Deleuze and Guattari, one notes the following. First, the Gothic, thought as a nomadic science, does not operate by means of the form/matter, hylomorphic method. In this, as so often, the authors follow Gilbert Simondon’s philosophy, where the static theory of formed matter, of all the capitalist-friendly formalisms that tend to dominate architecture and its discourse, is fundamentally called into question and ruled out. See in particular in this regard Simondon’s *The Position of the Problem of Ontogenesis* where from the outset the hylomorphic (or any other essentially static, being-orientated view) is cast aside in favour of considering the real genesis of things from a metastable pre-individual reality – a metastable reality that is nothing other than the previously mentioned plane of consistency and body without organs, or desire.¹⁰ ‘Dynamic relations’ come to the fore.¹¹ There is an inherently differential quality to this nomad architecture, and this is hinted at a page earlier by Deleuze and Guattari when they point out that differential calculus, as it grew up in the seventeenth century (with Newton and Leibniz), was deemed to be a ‘Gothic hypothesis’ with only parascientific status, precisely because it involved a dynamic, nomadic approach

to mathematics.¹² Second, there is an engagement with the hand, with the ‘journeyman’, with the artisan. This is not the architecture of the architect, but the architecture of interplay between the various forces at work on the building site, including those of the plan and the drawing but also including those forces that are not strictly part of the discipline of architecture: the force of the will of the craftsperson, respected in the specificity of what they can bring to the more open and thus inherently transdisciplinary project. This is exactly the same transdisciplinarity that Querrien herself deploys in her collective projects; in her case it may not involve skilled craftspeople, but it does involve the community of which the architectural project is (or should be) part. Third, there is an ‘operative logic of movement’; this means here a logic of how the artisan acts, a peculiar mixture of intertwined theory and practice whereby the ‘practice’ turns back on the ‘theory’; this is an immanent art, whereby that which controls the movement is not external to the process but is part and parcel of it, in contrast to the ‘transcendent’ models of architecture whereby the hand of the craftsperson is controlled by external means – for instance, the architectural drawing or the BIM model. But I mention here this operative quality because history, here, pace Manfredo Tafuri, is also operative not in an ideological sense but in the sense of not being an abstract disinterested survey, as Tafuri seems to demand.¹³ History, and the way of interpreting history, is directly and politically related to the present practice of architecture, as evinced by Querrien. Finally, and above all, representation is declared entirely irrelevant for this nomad architecture: ‘One does not represent, one engenders’.¹⁴ What is being stated here is that architecture, considered in its transdisciplinary character, has nothing to do with representation. This is linked to the earlier point about immanence and transcendence: representation operates non-immanently, positing a reality transcendent to the matter at hand (in this case, architecture) which then comes to be represented in it. That transcendent reality may be society, culture, or an idea. In contrast, Deleuze and Guattari’s philosophy is one of immanence, one that deconstructs completely the realm of representation; representation becomes irrelevant for this way of thinking about architecture. In Gilbert Simondon’s terms, this means that architecture is inherently *transductive* – another ‘trans-’ – that is related to our theme of the transdisciplinary. Here there is a transductive rather than representational relationship between society and architecture, in the sense Simondon expresses when he says that ‘the [transductive] relation does not spring up from between two terms that would already be individuals’, that is, terms that would already be in existence.¹⁵ Rather, the transductive relation of architecture means that society is

co-created with the spaces, and that architecture indeed is this co-creation or interplay of society and environment such that these two things do not precede the relation that the architect (whatever collective that is) sets up. To look at it the other way around: if society is deemed to pre-exist architecture, then the relationship between the two would indeed likely be one of representation, and as such architecture would be consigned to a state science, not a nomadic one. We can again take Querrien's work as a concrete example of precisely this – an example that perhaps not co-incidentally largely involves women rather than men – where, as already noted, her colleague states that this nomad architectural activity 'creates the conditions for a liberating experience that changes both the space and the subjects'.¹⁶ The subjects here are not conventional fixed subjects (in fact, one could say that they are not subjects at all in the sense that subjects are usually subject to the notion of a more or less fixed identity), but rather sit in transductive interplay with the space whereby both space and subject change dynamically. So an architecture, here, that in principle and primarily:

- has nothing to do with representation
- has nothing to do with giving form to matter
- has nothing to do with the architect as controller of the design
- has nothing to do with a disinterested analysis of history.

Now what is remarkable in the context of Deleuze and Guattari's discussion here is that this nomadic approach is explicitly characterised by them as stupid. They say that 'from the point of view of the State', this 'eccentricity, necessarily appears in a negative form: stupidity (*bêtise*), deformity, madness'¹⁷ In other words, according to the authors, the approach I have outlined to architecture here is stupid, and to take this approach one necessarily has to be stupid – at least, taken in the sense that the state would understand the situation. I say this is remarkable because the use of the term '*bêtise*' is rare in *A Thousand Plateaus* and to my knowledge this is the only instance where it is used in a substantive, philosophical manner. As such, it represents the end point of a trajectory in Deleuze's work regarding stupidity that leads from his *Nietzsche and Philosophy* book in 1962, through *Difference and Repetition* in 1968 to this moment in the exposition of nomadology.¹⁸ I will now follow this trajectory in order to show why this stupidity is not simply the view of the state, but rather has the character of a structure of thought. What appears as negative from the point of view of the state will be revealed to be, according to Deleuze, a positive possibility of thinking.

Stupidity – a positive structure of thought

In *Nietzsche and Philosophy*, stupidity is already introduced as something with an ambiguous status, prompted

by Nietzsche's words: 'Concretely, is there not a kind of baseness, meanness, stupidity etc. which becomes active through going to the limit of what it can do? "Rigorous and grandiose stupidity..." Nietzsche writes (BGE 188)', and this stupidity can in turn be transformed by means of the eternal return: 'Laziness, stupidity, baseness, cowardice or spitefulness that would will its own eternal return would no longer be the same laziness, stupidity etc.'¹⁹ Recall here that the test of the eternal return is that one should try to bring into existence only that which one wills to return again and again to eternity. If stupidity willed its own eternal return, then it would be transformed, which is possibly just another way of suggesting that, taken to the limit of what it can do, it will become active.

(We could discuss here the mystery of the eternal return in relation to architecture. How could the architect take the test of the eternal return? What might architecture be such that the architect wills its eternal return again and again for eternity? For surely, whatever we might design, if it were to return again and again for eternity it would lose all strength, it would become stultifyingly boring, no? But this depends on our ontology of architecture. The state architect, who works with forms, creates forms from matter, within a representational milieu, that is, who works with a fixed ontology of being, will no doubt fail this test of eternal return. But the nomad architect creates transductive relations, as noted above; she has a transductive ontology whereby the terms of the relations that make up architecture are co-created with those relations, or rather are a side-effect of those relations – relations that are inherently dynamic, inherently a question of constant becoming rather than fixed being. Those terms would be the things like the form of the building, or the nature of the societal interactions – the affordances – that the building entitles, but always maintained within the dynamic of becoming. It is such a dynamic that will stand the test of the eternal return, and it is the greatest of architecture (both celebrated and mundane) that does indeed withstand that test, the test of the question: could I return time and time again to it for eternity, for the simple reason that the 'I', for such works, at each return becomes an other.)

In fact, for Nietzsche, 'stupidity is a structure of thought as such', and this structure reveals that the philosophically dominant way of thinking (which Deleuze calls the 'image of thought') is wrong to claim that what is opposed to thought is mere error.²⁰ Errors are trivial, 'puerile' matters such as '3+2=6' or 'saying "Hello Thaetetus" when one meets Theodore'.²¹ Stupidity is altogether more complex than simple error of this type, and it therefore points to an alternative philosophy wherein 'truth is not the element of thought'. This is Nietzsche's project: to displace truth, make it a mere after-effect of broader forces, forces

which themselves, in their interaction, in fact make up the element of philosophy (in the sense of 'being in your element'). We have come across this element already: it is what Deleuze, taking over Nietzsche's essential thought, names as desire, the plane of consistency or the body without organs. And we have also come across the purveyors of truth: truth is set up and guaranteed by state science. The task of a nomad science, by contrast, does not valorise truth, but operates by means of this other transductive image of thought.

Deleuze further notes in respect of stupidity that for Nietzsche, 'the state of mind dominated by reactive forces, by right, expresses stupidity and, more profoundly, that which it is a symptom of: a base way of thinking.' But Deleuze's own views on stupidity are either different to this, or undergo a transformation in the period between the writing of his book on Nietzsche in 1962, from which these words are quoted, and the publication of *Difference and Repetition* in 1968. As we will see – and this is typical of the movement of Deleuze's thought – he extirpates the negative, aristocratic, scornful tone relating to stupidity which we see here in Nietzsche. In this, he stays true to a deep current elsewhere in Nietzsche's thought of the destruction of nihilism, where Nietzschean nihilism is defined (in almost complete opposition to the usual definition) as the depreciation of our world in the name of some higher transcendent reality (truth, God, Platonic ideas/forms and so on). This depreciation of how we actually are – the 'empirical' reality of our existence – is something both Nietzsche and Deleuze cannot stand. In Deleuze's case he takes this further, in my view, than Nietzsche, and asks in effect: if stupidity is an inevitable part of the 'structure of thought as such', if we cannot escape it, then by what right should we depreciate it?²²

The following passage from the conclusion to *Difference and Repetition* summarises the importance of stupidity (*bêtise*) for Deleuze's whole project:

The fact is that to ground is to determine the indeterminate, but this is not a simple operation. When determination as such occurs, it does not simply provide a form or impart form to a given matter on the basis of the categories. Something of the ground rises to the surface, without assuming any form but, rather, insinuating itself between the forms; a formless base, an autonomous and faceless existence. This ground which is now on the surface is called depth or groundlessness... That is why the matter-form couple is not sufficient to describe the mechanism of determination... In fact, this couple is completely internal to representation, serving to define its first state as this was established by Aristotle. It is already progress to invoke the complementarity of force and the ground as the sufficient reason of form, matter and their union. More profound and

threatening still is the couple formed by the abstract line and the groundlessness which dissolves matters and breaks down models. Thought understood as pure determination or abstract line must confront this indeterminate, this groundlessness. This indeterminate or groundlessness is also the animality peculiar to thought, the genality of thought: not this or that animal form, but stupidity (*bêtise*). For if thought thinks only when constrained or forced to do so, if it remains dumb [*stupide* – translation modified] so long as nothing forces it to think, is it not also the existence of stupidity [*bêtise*] which forces it to think, precisely the fact that it does not think so long as nothing forces it to do so?... Thought is the highest determination, confronting stupidity [*bêtise*] as though face to face with the indeterminate which is adequate to it. Stupidity [*bêtise*] (not error) constitutes the greatest weakness of thought, but also the source of its highest power in that which forces it to think.²³

This is a dense passage, sitting as it does in the conclusion of the book where the concepts outlined here have already been covered in more detail. But I think it is possible to summarise what is being said here in the following terms which can be related to architectural thought. As before, the form-matter way of thinking about how things come to be – how they are determined from out of something indeterminate – is inadequate. In fact, that way of thinking, going back to Aristotle, is representational, and as I noted above representation, in this nomad way of thought, has no validity. For architecture, representational ways of thinking, and seeing architecture as essentially the creation of architectural forms in some material (the hylomorphic method), are temptations that are difficult to avoid, on pain indeed of the accusation of stupidity by those representing (again, a question of representation) state science.

When something is created – when it comes to be – this means that whatever the pre-existing indeterminate realm, it is given a determination. For architects, that would mean the creation of a new work of architecture: that creation is an act of determination on the indeterminate. Now, the indeterminate is therefore the ground out of which that creation occurs, its basis, but when determination happens the ground does not simply disappear: on the contrary, it rises up and appears, as it were, 'between the forms' – as a sort of depth or groundlessness. This indeterminate ground (which is groundlessness) is what we previously named the plane of consistency, desire, or the body without organs: Deleuze delights in taking names from other aligned philosophers and placing them side by side, naming the same thing with many names (a habit which can cause much confusion). It can be called both ground and groundlessness because it is a metastable transductive field or element (in the sense of 'being

in your element') made up not of anything substantive, but rather of those relations – sets of differences – which we previously mentioned and of which substantial matters are an after-effect. In its dynamism it does provide a ground, but because it is not substantive that ground is groundless. We saw earlier with Anne Querrien how you can have a politically effective and active architectural practice which is posited on such a non-substantive, transductive ground.

Now it is thought itself (also named as 'abstract line' – a naming which we will simply take as a naming here, for reasons of space) which is determination in the purest manner. It is by means of thought that we create something out of the groundless ground, just as Querrien and her colleagues create a new architecture of a people to come by means of their thought. And it appears that Deleuze is positing a second groundlessness, a second indeterminate realm – which consists of the interplay between thought and the first groundlessness. There is a very peculiar doubling-up here, and I think the meaning of this is that Deleuze does not want to separate out thought from this groundlessness, but nevertheless must do so in order to express himself. And what is being expressed is Spinoza's dictum – for Deleuze, Spinoza is the prince of philosophers – that the mind and the body are the same thing.²⁴ Again, it is this indeterminate, this groundless ground that will be named the plane of consistency, desire, or the body without organs. And here it is given another surprising name: stupidity – of a bestial kind (hence the reference to animality) – that is, *bêtise*. Now it is *this* stupidity that is referenced that one time in *A Thousand Plateaus* in relation to nomad thought, and is the same stupidity that is required to think architecture as nothing to do with representation, form, disinterested history or design control. It is only this stupidity – this groundlessness of the transductive relation – which 'forces us to think'; it is at once a weakness of thought, and its greatest strength.

Transcendental stupidity

Stupidity is a structure of thought, and as such it is a transcendental question for Deleuze. What does that mean? Andrew Pollhammer, who coined the term transcendental stupidity, contrasts Deleuze's notion of transcendental with that of Kant, from whom he steals the term: 'As Deleuze sees it, Kant's philosophy is not transcendental enough to the extent that it is concerned with mere conditions of *possibility* for objective cognition rather than with *genetic* conditions of *real* experience.'²⁵ For Deleuze, Kant's objective cognition begs the question because it fails to address the basis – the groundless ground – on which such objective cognition for an already-established

unified subject comes about. That basis is the real – reality as such – and it is the genetic – that is, developmental, dynamic – conditions of that real experience which are the subject of transcendental questions. Earlier on in the chapter of *Difference and Repetition* devoted to the topic of the image of thought Deleuze has made clear the connection between this and stupidity, when he states that 'stupidity is never that of others [he means, it is a stupidity of philosophy] but the object of a properly transcendental question: how is stupidity... possible?'²⁶

The answer comes immediately:

[Stupidity] is possible by virtue of the link between thought and individuation. This link is... established in a field of intensity which already constitutes the sensibility of the thinking subject.... [Individuation] involves fields of fluid intensive factors which no more take the form of an I than of a Self. Individuation as such, as it operates beneath all forms, is inseparable from a pure ground that it brings to the surface and trails with it. It is difficult to describe this ground, or the terror and attraction it excites.... It is the indeterminate, but the indeterminate in so far as it continues to embrace determination, as the ground does the shoe..... Stupidity [*bêtise*] is neither the ground nor the individual, but rather this relation in which individuation brings the ground to the surface without being able to give it form.²⁷

The term 'individuation' returns us here again to Gilbert Simondon, from whom Deleuze directly takes this word. Individuation means the same thing as 'determination' did above. The 'fields of fluid intensive factors' are the same element, the same plane of consistency or body without organs previously mentioned, that is, the same groundless ground out of which something determinate is created, comes into being – or rather, comes into dynamic becoming. When Deleuze says that individuation does not take the form of an 'I' or a 'self', this again invokes the transductive relation whereby what occurs on 'our' side of the relation is not a fixed subject related to a fixed object (which might be an object, with a certain form, of a work of architecture, thought through the lens of state science). To relate this back to Anne Querrien's work, I noted above that nomadic architecture creates, as she says, 'the conditions for a liberating experience that changes both the space and the subjects', and therefore that these 'subjects' are not really subjects in the fixed sense of that word; they are rather the result of an individuation not taking the form of an 'I' or a 'self'.²⁸

It is not that we cannot interpret architecture in terms of form. Of course, that remains possible. It is just that form, and its concomitant matter, no longer has the last or first word: there is nothing foundational or intrinsic about them, they are aftereffects, consequences. Among all

the forms of architecture there remains, for the nomad, a depth, a relation, which is brought to the surface by a certain stubborn stupidity, a groundless ground out of which the creation of the new work of architecture occurs as an event – the determination or individuation proper to a nomadic architecture of the type Querrien essays – and this depth hovers around, haunts the forms and remains there as the possibility for the new to ever renew within the eternal return.

Transcendental empiricism

In the history of philosophy, empiricism is contrasted with the transcendental. The one relates to specifics, and is as distant as it can be from the breadth of the question about the conditions for the real which, for Deleuze, is the transcendental question. I started this essay with an apparently empirical instance of stupidity – the Grenfell fire. This concerned not the type of nomadic architecture that I cited in Anne Querrien's work, but rather a state architecture, commissioned from the state (this was a block of flats owned by the local municipality), and designed within the auspices of a common-or-garden view of architecture as the design of the construction, or in this case upgrading, of a building. In what way does this empirical example relate to the transcendental questions I have raised?

For Deleuze, there is no contrast between the empirical and the transcendental. Rather, his project is one of creating a transcendental empiricism, in other words to overcome the split between these two realms of thought. He defines transcendental empiricism as follows, earlier on in *Difference and Repetition*:

Empiricism truly becomes transcendental... only when we apprehend directly in the sensible that which can only be sensed, the very being of the sensible: difference, potential difference and difference in intensity as the reason behind qualitative diversity. It is in difference that movement is produced as an 'effect', that phenomena flash their meaning like signs. The intense world of differences, in which we find the reason behind qualities and the being of the sensible, is precisely the object of a superior empiricism.²⁹

What we sense in the world is something very simple, something childlike: we sense differences of intensity, variations, constant becoming, every moment something different. It is only out of this field of intense differences (desire, plane of consistency, body without organs...) that the diversity of movement and phenomena occur, as an 'effect', an aftereffect. It is the perception of this field, this 'intense world of differences', that constitutes a transcendental empiricism, and that points us to the fact that even the most 'empirical' of instances will not be divided from

this field of differences without a loss of understanding.

We can relate our discussions back to the Grenfell instance in the following manner. Clearly, the building regulations which the architects were dumb enough not to follow are an instance of the state science of architecture. The state intervenes in architecture for good reason: in this case, for reasons of safety. As Deleuze and Guattari point out, there is a nomad quality to Gothic architecture, but the reason why the state stamped on that nomadic quality was, at least in part, to do with public safety:

Certain of these requirements are translated in terms of "safety": the two cathedrals at Orleans and Beauvais collapsed at the end of the twelfth century, and control calculations are difficult to effect for the constructions of ambulant science... safety is a fundamental element in the theoretical norms of the State.³⁰

The same goes for Grenfell and the building regulations: they are there for public safety, it was ever thus. There is nothing uninteresting or unimportant about building regulations for a nomad architecture. Within a transcendental empiricism, these empirical instances of state science take equal place. What becomes apparent in Deleuze and Guattari's account is that although the nomad science of architecture, as of every science, is the primary creative ground of architecture, a groundless field to which we must return as architects time and time again in order to create the new at whatever scale we are working at the time, there is no escaping, and no benefit to trying to escape, the other side of the coin, namely state science. Which is to say that the 'smooth' (which gives the possibility for the new) and the 'striated' (the realm of rules, of organisation) have equal value. There is always a plane of organisation (a place of rules, of order, of striation and hierarchy) as well as a plane of consistency, although the latter is primary (and must remain so) and always 'grins through' the former if we know where, or how, to look. Anne Querrien's work as an architect does not dispense with the striated; rather, she and her colleagues know how to play in the smooth space of a nomadic architecture at the same time as necessarily engaging with the state to undermine it where, at that instance, they can do so by virtue of the groundless depth – the plane of consistency – that can be perceived between the fixed forms of the state.

As Deleuze and Guattari say: 'never believe that a smooth space will suffice to save us.'³¹ This means: do not believe that as an architect you can – or should – get away with anything other than *transcendental* stupidity.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. *The Building Regulations 2010, Fire Safety, Approved Document B, Volume 2 – Buildings other than Dwellinghouses*, 2006 Edition with 2007, 2010 and 2013 amendments, Section B4, page 94, paragraph 12.7, <https://www.gov.uk/government/publications/fire-safety-approved-document-b>.
2. Jane Wharton, 'Grenfell Tower was so dangerous "it was like throwing match into petrol"', *Metro*, 5 June 2018, <https://metro.co.uk/2018/06/05/grenfell-tower-dangerous-like-throwing-match-petrol-7607068/>.
3. *Prescription of Qualifications: ARB Criteria at Parts 1, 2 and 3*, Architects Registration Board, 2010, <https://arb.org.uk/information-for-schools-of-architecture/arb-criteria/>.
4. The Architects Registration Board did introduce a Continuing Professional Development scheme in 2024 and set two mandatory topics that have to be covered by the architect. One of these mandatory topics is fire safety. However, there is no specific requirement for knowledge of the building regulations to be covered in this training. See <https://arb.org.uk/architect-information/cpd/> and in particular the FAQs.
5. *Prescription of Qualifications: ARB Criteria at Parts 1, 2 and 3*, p. 4, paragraph GC1.2.
6. For the topic of the 'trans' in architecture, see the rich essays in 'Trans-Bodies / Queering Spaces', *Footprint* 21 (2017), <https://journals.open.tudelft.nl/footprint/issue/view/567>.
7. Nomad and state sciences, and smooth and striated space, are outlined by Deleuze and Guattari primarily in plateau (i.e., chapter) 12 of *Capitalism and Schizophrenia: A Thousand Plateaus*, entitled '1227: Treatise on Nomadology – The War Machine'. Gilles Deleuze and Félix Guattari, *Capitalism and Schizophrenia: A Thousand Plateaus*, trans. Brian Massumi (Minneapolis, University of Minnesota Press, 1987), 351–423.
8. *Ibid.*, 364.
9. Anne Querrien, Constantin Petcou and Doina Petrescu, 'Making a Rhizome, or Architecture after Deleuze and Guattari', trans. Doina Petrescu, in *Deleuze and Architecture*, ed. Hélène Frichot and Stephen Loo (Edinburgh: Edinburgh University Press, 2013), 262–275, 266. The reference to the French translation of Ivan Illich's work is on the same page: Ivan Illich, *Tools for Conviviality* (New York: Harper and Row, 1973).
10. Gilbert Simondon, 'The Position of the Problem of Ontogenesis', trans. Gregory Flanders, *Parrhesia* 7 (2009): 4–16. This text

forms part of the introduction to Simondon's *L'individuation psychique et collective (Psychic and Collective Individuation)* which has more recently been translated into part of *Individuation in Light of Notions of Form and Information*, trans. Taylor Adkins (Minneapolis, University of Minnesota Press, 2020), 1–14.

11. Deleuze and Guattari, *A Thousand Plateaus*, 364.
12. *Ibid.*, 363.
13. See chapter 4, 'Operative Criticism' in Manfredo Tafuri, *Theories and History of Architecture* (New York, Harper & Row, 1976), 141–70. Or perhaps we are in fact following Tafuri when he ends this chapter by saying that 'the result will be an operative criticism raised to a higher level'.
14. Deleuze and Guattari, *A Thousand Plateaus*, 364.
15. Simondon, 'The Position of the Problem of Ontogenesis', 8.
16. Querrien, Petcou and Petrescu, 'Making a Rhizome', 266.
17. Deleuze and Guattari, *A Thousand Plateaus*, 354. The full sentence states: 'From the standpoint of the State, the originality of the man of war, his eccentricity, necessarily appears in a negative form: stupidity, deformity, madness, illegitimacy, usurpation, sin.' I have quoted selectively in order to omit the reference to the 'man of war' and the question of the war machine, which would take us along a different path which space does not permit. Suffice it to say that the war machine and nomadology are closely linked, as the title of the plateau/chapter ('1227: Treatise on Nomadology – The War Machine') indicates.
18. Gilles Deleuze, *Nietzsche and Philosophy*, trans. Hugh Tomlinson (New York: Columbia University Press, 2006 [1983]); Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London: Continuum, 1994).
19. Deleuze, *Nietzsche and Philosophy*, 66. The Nietzsche quotation is from Friedrich Nietzsche, *Beyond Good and Evil*, trans. R.J. Hollingdale (London: Penguin Books, 1973 [1886]). As before, the word stupidity translates the French word *bêtise*. The original German word in Nietzsche is 'Dummheit'.
20. Deleuze, *Nietzsche and Philosophy*, 105.
21. *Ibid.*
22. *Ibid.*
23. Deleuze, *Difference and Repetition*, 275. The translator, Paul Patton, included the first *bêtise* in his text; the other citations of the original French are mine. This is important because Deleuze also uses the term *stupide* here, to make a distinction which is not evident from the translation and which has not (as far as I am aware) been picked up on in other commentaries on the question of stupidity in Deleuze.
24. Benedict de Spinoza, *Ethics Proved in Geometrical Order*, trans. Michael Silverthorne and Matthew J. Kisner (Cambridge: Cambridge University Press, 2018 [1677]), 48. The relevant passage reads: 'thinking substance and extended substance are one and the same substance'.
25. Andrew Pollhammer, 'Between Natural Stupor and the Thought of Stupefaction: On Gilles Deleuze's Transcendental Stupidity', master's research paper, Concordia University, August 2017,

p. 20, original emphasis, https://spectrum.library.concordia.ca/id/eprint/983013/1/Pollhammer_MA_F2017.pdf. This paper includes a comprehensive literature review relating to the theme of stupidity in Deleuze.

26. Deleuze, *Difference and Repetition*, 151.

27. Ibid., 151–52.

28. Querrien, Petcou and Petrescu, 'Making a Rhizome', 266.

29. Deleuze, *Difference and Repetition*, 56–57.

30. Deleuze and Guattari, *A Thousand Plateaus*, 374.

31. Ibid., 500.

Biography

Formerly senior lecturer in design, history and the theory of architecture at Kingston University School of Architecture and Landscape, Tim Gough has an architectural practice in London. His research interests include the work of Gilles Deleuze, Francesco di Giorgio, Roman baroque, and the ontology of architecture.

Cuckoo

Lena Galanopoulou

National Technical University of Athens, Greece

Corresponding Author Mail
galanopoulou.lena@gmail.com

ORCID
Lena Galanopoulou <https://orcid.org/0009-0000-1364-7178>

How to Cite
Lena Galanopoulou, 'Cuckoo', *Footprint* 36 (2025): 21–32, <https://doi.org/10.59490/footprint.19.1.7496>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

Drawing from the imag(in)ing of passing time as a cuckoo's repetitive passing through a threshold, this article emphasises the active role of repetition in modulating spatio-temporalities and fostering variations. It argues that the systematic organisation and classification of the milieu emerge from the human capacity to perceive and assign differences within the spatio-temporal continuum. This process is enabled by iterative interactions with environmental stimuli, whether immediate or mediated through technological means, serving as an active process of evaluation and unfolding of environmental affordances. In this context, repetition simultaneously serves two seemingly opposing functions: it creates patterns of return to previous encounters while also opening potential lines of flight away from established norms. Intelligence transduces repetition into change, as it evolves through feedback loops, that is, non-linear operations that integrate information across various time scales and through diverse physical mediations, both embodied and exosomatic. As such, intelligence is re-conceptualised not as a state but as a symbiotic, responsive, and anticipatory process that

unfolds through failing and adapting to environmental changes.

Keywords

Habit, inhabit, space-clock, intelligence, intelligible, extended perception

As the clock strikes the hour, a small door opens and a bird springs forth while a series of cuckoo calls sounds, corresponding to the time. I've spent an unreasonable amount of time watching hours, minutes, and seconds shift from abstract measurements of an uncontrollable flow into sensory triggers. Even though these are moments of self-reflection more than an outward observation, the cuckoo clock still holds me fixated. I'm uncertain whether what captivates me most is the event itself or the unsettling thought of its relentless repetition, indifferent to my presence. Is it the fear of the present slipping away, never to return, or the dread of it endlessly repeating, over and over again? Both are tragedies, after all. Two seemingly opposing tragedies unfold before me at once, as each second signals both irrevocable change and the endless recurrence of time. The more I reflect on it, the clearer it becomes that repetition and change are inseparable, inextricably bound together. The clock embodies a dual function: it fixes, segments, and structures time, yet simultaneously offers moments of distortion and liberation; it opens thresholds, offering fleeting glimpses beyond its rigid framework. In this way, it becomes a medium for critically engaging with time as machinic, event-driven, localised, and sensitive to context. It becomes a mechanical analogue of temporal perception that expands and amplifies engagement with the environment beyond the here and now.

In this article I aim to unravel how moments of fluidity may arise from organising and classifying experiential

flow, eventually forming it intelligible for repetitive encounters. More precisely, I intend to emphasise the schizoanalytic function of repetition in modulating spatio-temporalities and its active role in fostering variations.

One, two, skip a few

The brilliant imag(in)ing of passing time as a passing through a threshold emphasises the machinic, rather than numerical, physis of time. There is an irreducible materiality embedded in time, which makes it impossible to dissect into quantifiable, homogeneous units without losing its essence. Materiality doesn't reduce temporal cognition to physical interactions; instead, it opens up to virtual interactions, highlighting the multiplicity of underlying forces that arise between segments of time. These forces provide structural cohesion while allowing distortions and instabilities, eventually acting as a criticism from within. This observation underscores that human experiences of time are diverse due to cultural, social, and technological factors.¹ Henri Bergson captures this complexity through his concept of duration, which refers to the qualitative aspect of temporal experience, interwoven with the physical world and our relation to it. As he argues, duration is not a uniform progression of a measurable medium but 'a qualitative multiplicity within us, with no likeness to numbers', in a perpetual state of flux.² Thus, it is the differentiation that emerges within the flow of duration and signifies a change in the organisation of a system, or more vividly, it is the bird's passing through that door, that enables time. Time arises as a form of emergent awareness, which is impossible to impose externally, but can only arise from the system itself.

Therefore, there are multiple 'times', rather than one, due to the pluralisation of cultural and technical milieus.³ That means that the clock cannot be reduced to a system (or instrument) for the regulation of human practices, but should rather be approached as a dynamic field of interactions and potentials, emphasising the affordances it provides and unlocks. The focus should shift from the technical object to its technicity as a mode of relation between human and world. For Gilbert Simondon, technicity is not confined to the physical form of an object but extends into the interactions and potentials it enables within an environment.⁴ It operates in a reticular way, meaning it is involved in a network of events, actions and relationships within a structure.⁵ Thus, the clock's technicity serves the shift from viewing time as a linear, uniform flow to understanding it as a variable contingent upon the system's intrinsic processes, dynamics and interconnections. In the case of the clock, the knowledge that emerges from within is nothing but a function that repeats itself, so as to coordinate the clock's operation. The cyclical repetition allows

it to further relate as a cultural-technological construct and correlate as a formal system of communication.⁶ It is precisely through repeated (inter)actions that our perception of time undergoes a transformation, which, in turn, alters its function in a perpetual feedback loop. The radical influence of clock-machinery on temporal perception, which necessitated further innovations is an exemplary paradigm to this mechanism. To elucidate further, the segmentation of time into discrete, quantifiable units promoted a shift from task-driven durations to time-regulated activities, transforming the perception of time from a communal to a personal experience associated with metrics of efficiency and punctuality. That leap catalysed the evolution of time-keeping devices from large communal installations to portable instruments worn on the wrist, thereby facilitating the internalisation of clock rhythms and its capitalisation by equating time with economic value. Hence, the constraint regime of an action, when repeated, enables entities to become more entangled and promotes the process of their becoming-ever-different.

Within this framework, the information that passes through the clock extends beyond its motricity; rather, it is through this movement that information is multiplied, tying together timekeeping and time passing.⁷ Therefore, the clock not only fixes and standardises time but also, through its operation, amplifies our perception of the flow of time. It provides an arrangement of auditory and/or visual signs to serve as temporal guides for human activity, that is, a system for the classification and organisation of activity that mediates our engagement with the world's mobile and qualitative aspects. Similarly to design, it offers a structured arrangement of signs. Sanford Kwinter directly connects the emergence of the clock-machine with architecture.⁸ He points out that in the European monasteries of the early Middle Ages, and in particular those of the Benedictine order, the monastic communities introduced a system of bells that rang periodically throughout the day, contributing to the discipline and regimentation of monastic life. The initial quantification of daily routines and bodily temporal activities (encompassing meals and sleeping schedules in addition to devotional practices) was reinscribed in a complex spatial organisation, including the monastery walls, the distribution of cells, common rooms, meditation yards and so on.⁹ As Kwinter notes:

The monastery, then, is nothing if not a prototype clock; yet the clock and the advent of homogeneous, mechanical-numerical time are rarely considered as more than incidental technical devices, and, even when they are recognized for the cataclysmic effect they have had on every aspect of Western culture they are certainly not commonly thought of as being the province of architects or architectural thought... If an independent

clock mechanism was abstracted later from this empirical arrangement of elements (naturally monks figured prominently in the subsequent development and specialization of this new technology), it was only to affect the body/architecture continuum in an ever deeper and more generalized way.¹⁰

Drawing parallels between the clock and spatial organisational arrangements, reflect a common human capacity to perceive difference and assign difference to make it possible to navigate the spatiotemporal continuum. From this perspective, technical objects that regulate and guide individual and collective actions extend temporal and spatial perception by situating singular points within the ongoing process of becoming-ever-different. When abstracted from their immediate context, they further expand the human-world modes of interaction, by becoming nodes of mutation that actively reshape and challenge established temporal and spatial orders. This decontextualisation offers moments of liberation from dominant hierarchical structures by implying a transversal mode of interaction with its segments, ultimately opening up new possibilities of mutation.¹¹ After all, 'one flew east, one flew west, one flew over the cuckoo's nest', as perception itself gets differentiated.¹² In other words, there is not a single, unified experience but rather a multitude of doors of perception.¹³ On a related note, Gregory Bateson claims: 'Perception operates only upon difference. All receipt of information is necessarily the receipt of news of difference, and all perception of difference is limited by threshold. ... Knowledge at any given moment will be a function of the thresholds of our available means of perception.'¹⁴

Lewis Mumford in his work *Technics and Civilization* reflects on the origins of mechanical clocks, tying them to astronomical instruments and their evolution from celestial observations to timekeeping mechanisms.¹⁵ The problem of origin is of less interest to this article, since it implies an effective causality understanding of how our world works (this contrasts with the article's problematisation, which aligns more with Kwinter's position that 'since movement can be caused and modified only by other movements, the problem of origin and initiation must either be reconfigured or pass away').¹⁶ The interesting part, though, is that either as a transformation of astronomical apparatuses or of a spatial-organisational model, both perspectives point towards a boundary-making practice. Karen Barad argues that observing through apparatuses (like microscopes and telescopes) transcends the passive act of observation, as it is an active process of co-constitution, where identities and boundaries are continually reconfigured.¹⁷ In a scientific context, boundaries create distinctions that shape observations, interpretations and explanations of phenomena, playing an active role in the production of

knowledge. Taking that a step further and beyond scientific inquiry, Barad claims that there are not 'entities with inherent boundaries and properties but phenomena that acquire specific boundaries and properties through the open-ended dynamics of intra-activity'.¹⁸ Therefore, boundaries are not inherent but acquired through iterative processes that reconfigure what is possible and what is not. Hence, perceiving and assigning differences is an emergent process of engagement within the milieu and the instrumentalisation of that process (navigation, coordination, synchronisation and so on) influences the production of knowledge itself.

Rolling like a ball

A close-up of a ticking clock, a man checking his wristwatch, a woman nervously glancing at a wall clock in an empty hallway – these scenes are fragments of Christian Marclay's twenty-four-hour video installation *The Clock* (2010).¹⁹ Composed of thousands of film and television clips, the work is edited to align with 'real time' as viewers watch it. This continuous montage functions both as a timekeeping device and as an aggregation of visual references to time; a continuous flow of images and at the same time, an instrument of its own transformation. Evidently, there is something about temporal cognition that makes us unable to disassociate it from movement. For Kwinter 'time expresses itself by drawing matter into a process of becoming-ever-different, a transformation that may and ought to be seen as a type of movement – a flow of matter through time'.²⁰ This view is close to Bergson's concept of duration, linking our perception of the passage of time with change. Bergson posits that matter itself is an aggregate of images.²¹

For Simondon, movement, and more specifically motricity, precedes perception.²² In his ontology of images, he develops a pluralistic account of images that act as groups of signals produced by the interaction of an organism with its environment. Simondon conceptualises the image not as a static, visual representation, but rather as a dynamic emergence within the interconnected milieu, avoiding any anthropocentric bias. This emergence involves a transductive, loop-process which includes the motor-image, the perception-image, the mental image and the invention-image. Each phase enables the modulation of relationships among humans, nonhumans, and their shared environment, thereby dissolving any hierarchical distinctions. As A. M. Oliveira and F. R. Palazuelos note, 'the image is thus understood as a transient, intermediate processual reality between individual individuations and milieus existing within an evolutive technological multiplicity'.²³

The initial images in this transductive cycle are primarily motor, operating as autokinetic systems that are not yet

finalised.²⁴ Thus, they have no other content than movement itself and are linked to 'the most simple behaviors through which the living take possession of the milieu and proceed to the first identification of the (living or non-living) objects they encounter'.²⁵ Simondon's concept of motor-image should not be associated with the deterministic view of motricity of classical physics, as it excludes intuitiveness, intentionality and other non-forceful forces from the equation.²⁶ The motor-image is rooted in immediate bodily experiences and interactions forced by intuition, an *élan vital* that acts as a non-forceful force and prompts organisms to form joint systems. The motor-image could be understood as an instance of an event's unfolding which involves forces, intensities and their potentialities into an intuitive becoming. As such, it incorporates a flow of forces between actual and virtual participants. Simondon's perspective emphasises the movement-oriented nature of our perception which involves a constant negotiation of differences – between experience and novelty, between the actual and the virtual, between the perceiver and the perceived.

Kwinter connects movement and change with the emergence of novelty that arises as a coherent flow of matter through time. He views transformation and invention as inseparable quality-producing processes actualised through (and by) time.²⁷ In his words: 'all change is change over time; no novelty appears without becoming, and no becoming without novelty'.²⁸ Similarly, for Simondon, invention involves a transformation process, a building upon existing knowledge, experiences and mental constructs.²⁹ Accordingly, invention arises through a nuanced modulation of pre-existing engagement – a form of knowledge that evolves in parallel, yet distinctly, both inside and outside of the system at once. It is the active exercise of existing knowledge that produces further knowledge by reconfiguring what is possible and what is not, in different socio-techno-environmental settings. The mechanism of invention is thus a dynamic iteration, a perpetual cycle of exposure to information leading to exposure to yet more information. This process is not a linear input-output operation, as it requires different levels of integration of information on various time scales and through different physical mediations.

Once bitten, twice shy

There is a sense of anticipation while waiting for the clock to strike, as if the observer is somehow responsible for signalling it to act before it does. Simondon claims that for a stimulus to trigger a response, a level of organisation is needed as a basis for the interpretation of environmental signals. Essentially, our ability to understand and react to the world around us begins with movement, which primes

us for sensory perception: 'to say that motricity precedes sensoriality amounts to affirming that the stimulus-response schema is not absolutely primary, that it refers to a situation, or a present relation between organism and the milieu that has already been prepared by an activity of the organism during its growth'.³⁰ He continues:

The perceptual-motor relation is already act two in the drama where two protagonists – organism and milieu – exist, each as a primordial source of novelty and chance. It is the encounter of these two novelties that generates the perceptual relation: to the bundle of signals – an exogenous novelty – corresponds the local activity of an endogenous anticipation coming from the organism, the first form of the *a priori* image whose content is essentially motor.³¹

Cognitive engagement is a process of identification and classification of a pattern of interactions. For Simondon, perceptual experience is directed by innate forms or patterns that play the role of triggering stimuli.³² When a motor-image is perceived, it gets organised and classified as a model or a pattern of a greatest generality to which the set of incident signals may be connected.³³ It is in primary perception when incoming sensory data are matched with existing perception images, offering an immediate identification and reaction. A perception of the secondary type goes beyond merely recognising sensory input as matching a pre-perceived pattern. Instead, it presupposes a recognition of the differences between sensing and cognitive images as meaningful variations in the state of the phenomenon. In that sense, an image is already a system of the compossibility of states.³⁴ Accordingly, an intra-perceptual pattern is a kind of knowledge abstracted from the phenomenon, which acts both as a condition for change and as an emergent property of the interactions within a system that bonds things together.

Raymond Ruyer's concept of absolute survey emphasises the ability to perceive a multitude of heterogeneous elements simultaneously, integrating them into a cohesive understanding without losing their distinctness.³⁵ That is, the cognitive capacity to perceive the wholeness of individual elements remains even as they are woven into the collective understanding. Gregory Bateson in *Mind and Nature* argues that there is a 'pattern that connects'.³⁶ He rejects the idea of patterns as rigid affairs and argues that the right way to begin to think about the pattern that connects is 'to think of it as primarily (whatever that means) a dance of interacting parts and only secondarily pegged down by various sorts of physical limits and by those limits which organisms characteristically impose'.³⁷ Put differently, he suggests that the essence of connectivity is found in the dynamic relationships between elements,

and is primarily defined by their interactions. A pattern is a dynamic configuration that organises and differentiates while being subject to differentiation itself. Patterns, in their repetition or regularity, reveal more than a form; they reveal behavioural tendencies and underlying processes. Consequently, they offer an understanding of what it is that is being repeated. Recognising a pattern, in that sense, is perceiving a singularity within a system. The repetition of differentials stimulates the function of perceptual thresholds – critical points at which the variation in the system becomes significant enough to trigger a conscious reaction – providing a regularity within irregularity. In simpler terms, as differentials occur repeatedly within a system or environment, they reach a level or intensity where they become noticeable or meaningful, allowing patterns of change to be recognised and anticipated.

Anticipatory mechanisms are based on past interactions and serve to prepare the organism for future encounters. Hence, repetition enhances anticipation, which comes with a speculation that a pattern of change, a relational schema will repeat itself. This enhanced form of anticipation is not merely a passive expectation but an active, informed conjecture that emerges from a systematic organisation and classification of the environment. It could be understood as an augmented anticipation, an anticipation coming with a kind of knowledge, that is, an organised awareness due to previous experience, which in turn enables the emergence of newness, of further knowledge. Thus, the organisation of a system opens up to further differentiation and increased complexification through feedback loops where past interactions influence future behaviours, leading to the evolution of the organism-milieu relation. As Simondon notes: 'an anticipation cannot be merely an initiative; it is an organised initiative, with a structure, a consistency with respect to itself, a form.'³⁸ As the organism and its environment become more differentiated, through systemic organisation and classification, the potential for more complex interactions grows. This complexity is not merely additive; it involves the emergence of new patterns of interaction, new forms of anticipation by the organism, and new configurations of the milieu. Patterns may be changed or broken by repetition or by anything that will force a new perception of it, and these changes can never be predicted with absolute certainty.³⁹ Ultimately, change, whether anticipated or not, contains novelty, leaving us somehow unsettled, as it marks a departure from the familiar.

Afterpartie

Gilles Deleuze and Félix Guattari suggest that both living organisms and machines can be seen as 'molar aggregates'. This concept transcends the traditional binary

opposition between vitalism and mechanism, framing both organic and mechanistic entities as compositions of smaller units within a complex system of interconnectedness. The interconnection between the parts allows for direct communication and interpenetration between the micro (molecular phenomena) and the macro (singularities of the living).⁴⁰ Thus, Deleuze and Guattari emphasise that the relationship between wholes and parts is non-linear and under continual negotiation. Rather than a mere summation of individual components, the whole is a novel and coherent system with its own properties and dynamics that emerges from interactions across various scales. This view underscores the intrinsic relationship between parts and wholes, indicating that the aggregate is characterised by an emergent property that maintains the distinctness of its components while bringing them together in a meaningful unity.

In exploring the concept of coherence within a system, a critical question arises: How can one multiplicity be distinguished from another in the absence of a criterion of distinction? Ruyer's concept of unitary domain and Leibniz's concept of the monad both address the need for a criterion that allows for the emergence of unity from multiplicities, rather than the reverse. This criterion underscores the idea that unity or any form of unification is not the foundation but rather a derivative or emergent property of multiplicities, which only ever appears as subtracted from them.⁴¹ The pattern that connects emerges as a result of the system's dynamics and the interactions between its parts and the environment. Creation, therefore, unfolds as a process of subtraction, a selective retention from chaos, delineating a domain of limitation, conservation, or survey.

In this framework, systems are not fixed entities oscillating between order and disorder. Instead, they exist within a continuum of 'not not order', where various degrees of structure interact, giving rise to an ever-changing spectrum of organisational states. The ongoing negotiation between coherence and transformation advocates for understanding unity and order not as endpoints but as emergent properties that arise from the intricate interplay of forces, patterns and processes. Indeed, no one could know if a party is going to be good in advance, one could only speculate; or as stated in a more sophisticated way by Alfred North Whitehead: there is no continuity of becoming but only a becoming of continuity – continuity is never given in advance.⁴² From a different context but following the same line of thought, Alan Turing in *The Chemical Basis in Morphogenesis* argues that life emerges through organisation, which is essentially a transition from one pattern to another rather than from homogeneity to a pattern.⁴³ The dynamic transition between patterns implies that the mechanisms underlying morphogenesis are not

predetermined, but are influenced by environmental cues, genetic regulation, and the spatial distribution of morphogens. This aligns with the idea that biological systems exhibit a high degree of plasticity and responsiveness to internal and external signals, allowing for the generation of diverse forms and patterns in response to changing conditions. Systems evolve through a nuanced gradation of orderliness that is the result of an ongoing process of negotiation of which connections are viable or sustainable enough to remain. Hence, every pattern that connects simultaneously disconnects.

Alicia Juarrero in *Context Changes Everything: How Constraints Create Coherence* uses the concept of enabling constraints to explain how coherence arises within a system.⁴⁴ Enabling constraints are dynamic factors that facilitate interactions, propelling systems to exhibit emergent properties that lead to novel behaviours, patterns, and the formation of coherence and organisation.⁴⁵ For instance, our understanding of space is intricately determined by the constraints that define possible relationships and arrangements within it (here, there, inside, out, up and down), leading to conditional probabilities in interactions and behaviours.⁴⁶ The addition of temporal constraints to spatial constraints increases complexity and multiplies the potential for novelty.⁴⁷ This implies that the formation of a new emergent coherent whole is enabled by a process of decoherence that happens simultaneously. In quantum physics, decoherence refers to the process by which a quantum system loses its quantum properties, such as superposition and entanglement, as it interacts with its environment. When a quantum system interacts in a thermodynamically irreversible way, the system seems to transition from a quantum to a classical state.⁴⁸ For design, decoherence could be understood as a dynamic process that fosters systems' reorganisation through rearrangements in their field of interaction. If unity is only subtracted from within, and is not impossible, novelty could only arise through the breaking down of existing states of order, so as to negotiate novel ones. From this perspective, design is systemic change and to design is to disrupt, enabling a system's unity to be re-negotiated. Then, we architects break unity, simply because we cannot impose it.

Do the thinging

Let me initiate this paragraph with a linguistic break: it's worth mentioning the potential etymological connection between the words think and thing, although it might stem from speculative reasoning (or maybe that makes it even more noteworthy!). Samuel Taylor Coleridge, driven by J. H. Tooke's assertion that the word 'think' derives from 'thing', took the etymology a step further and proposed

that 'thing' signifies not just an object but an act of setting something apart, suggesting a fundamental cognitive process of differentiation. This conceptual leap underscores a deeper philosophical inquiry into the nature of thought itself, where 'to think' is to engage in the act of thingifying, meaning sensing, and perceiving.⁴⁹ The etymological connection, if it exists, of the words think and thing is less important here than the idea that a thought is already an act of division. To think, or for Coleridge, to thingify is to engage with the environment, meaning to sense, to organise, and to classify the incoming data.

For James J. Gibson to perceive is to understand the action potential within the environment. He uses the concept of affordance, which is a neologism from the verb afford, to describe what the environment offers, what it provides or furnishes.⁵⁰ Perception, in this view, is not passive reception but an active, exploratory process that reveals the potentialities embedded in one's surroundings. This direct engagement entails a constant differentiation, that is, a process of extracting information from the 'stimulus flux' and transforming them into meaningful bundles of signals that inform action (registering value).⁵¹ Discrimination or division in perception – to sort, filter, organise and select between various aspects of the environment – enables individuals to make informed decisions based on the specific features and patterns they perceive within the milieu. Gibson argues that the theory of affordances offers a way out of the clear-cut categorisation of objects that is insufficient to describe the spectrum of capacities and features they carry. In his words: 'to perceive an affordance is not to classify an object.'⁵² It is true that to perceive what an object affords, it does not have to be labelled first. However, the classes of objects that present a family resemblance enable us to perceive the common affordances within a niche, meaning the action-potentials that are shared within a specific environmental context. An objective schema essentially enables a dual engagement, an immediate-individual and a mediated-collective understanding of how objects can be interacted with. This communal aspect of affordances underscores that while the physical environment offers the same potential affordances to all its occupants, the actualisation of these affordances is mediated by shared frameworks of understanding and interaction that extend our sensitivity beyond individual sensory input. Except from physical affordances that emerge from human activity, there are also abstract, culturally and socially constructed affordances that emerge from collective human activity.

In this conceptual framework, intelligence is context-dependent, grounded in the ability to recognise and act upon (expand) affordances within the confines of an organism's ecological niche. Intelligent conduct is in

essence conduct towards making the environment more intelligible, and making something intelligible means to reduce the possibility of misperceiving its affordances. It is a step towards the expansion of an organism's niche which remains always in the making, and in that making, an organism not only adapts to and interacts with the environment but also actively transforms it, introducing new patterns of interaction and enabling the emergence of novel affordances. Thus, to question what intelligence is is to question how we change what affords us in order to make our surroundings more available, or in ecological terms, more intelligible.⁵³ To make something intelligible is essentially to make ourselves capable of revisiting it, thereby extending its effect across temporal and spatial constraints. Such an extension implicates an iterative dynamic where the known can be re-encountered, re-assessed, and potentially transformed. It is a process of prolonging the influence or relevance of an action or an action-potential by creating opportunities for its meaning or function to evolve through ever-continuous interaction.

Expanding this argument, the process of making something intelligible is not an end in itself, but the beginning of a new cycle of engagement with and within an entity. Through repetition, a revisitation of multiple scales is enabled, each instance providing an opportunity to evaluate the meaning of the connection, on the foundation of new contexts, insights, or understandings that have been acquired since the last encounter. Hence, repetition is an evaluation in itself. Either happening intuitively or intentionally, something is repeated when considered valuable enough to be repeated. Iterative processes involve a continual reconfiguration of possibilities and exclusions enabling us to negotiate what is valuable enough to continue relating with.⁵⁴ Their dynamic and non-deterministic nature offers a way of looking into classes of variables and functions that enable a form of sloppy programming entailing speculation.⁵⁵ As such, it involves making educated guesses or leaps, engaging in a perpetual negotiation with new possibilities emerging as others are excluded. In other words, intelligence becomes intelligent as it learns through failing and adapts. Feedback loops happening on various time scales and through different physical mediums, either embodied as the brain, or exosomatic as the clock, expand the ways we interact with our surroundings and consequently what is afforded by our surroundings. In doing so, the feedback amplifies the potential lines of escape from established norms and structures, opening up novel experiences and conducts. Repetition, in this sense, seems to form both the cuckoo's nest and the schizoanalytic method that identifies and multiplies the lines of flying away from it.

Novelty in wonderless land

Simondon posits that animals (and by extension, humans) are most capable of engaging in complex psychological activities, including those involving the inventive imagination, within their own territories. A territory is an area that an animal has organised and made familiar through its perceptions and activities.⁵⁶ This organisation makes the territory conducive to higher cognitive functions, because the animal has already classified and integrated the various elements of the environment. The animal's ability to perceive, integrate information, and act within its environment is directly related to the size and organisation of its territory.⁵⁷ In familiar settings where the environment is already structured in a way that aligns with the organism's cognitive and perceptual capacities, engaging in creative problem-solving and deploying the inventive imagination is more effective. Simondon suggests that when an organism's environment is highly organised, there is less need for the organism to engage in extensive preliminary filtering or sorting of sensory inputs according to basic categories. An organised environment allows for quicker recognition and classification of objects and situations, freeing cognitive resources for more complex 'psychical' (or psychological) activities.⁵⁸ This is because the classification or understanding of objects within such an environment becomes straightforward, reducing ambiguity and the cognitive load associated with identifying and responding to stimuli. As Simondon puts it:

The more the milieu is organized, the less it is necessary to conduct a preliminary sifting of signals according to the primary categories; after a cursory categorical scouting, the field is freed up for psychical activity because the class of the object is no longer in doubt. ... The consequence, specifically, is that resolving problems involving the inventive imagination humans deploy (detours, instruments) succeeds much better when an animal is in its territory than when it is in a situation where it could not organize its milieu.⁵⁹

Therefore, in unexplored territories, where a living being is in a constant state of alertness and vigilance less novelty arises, in comparison with an organised and classified milieu that enables the organism to engage with its surroundings in a more nuanced approach.

Further developing the three modes of processing a motor-movement briefly mentioned above, Simondon relates them to the milieu's level of organisation.⁶⁰ In the primary mode, the individual's interaction with the environment is immediate and unreflective. This stage is characterised by direct engagement with the surroundings, where the environment serves as a field for action without a mediated or conceptualised understanding. As

individuals progress to the secondary or psychic mode, their relationship with the environment undergoes a significant transformation. The milieu becomes organised, processed through a psychic mode of perception. In this mode, there is a shift from dealing with situations to interacting with objects. The environment is not just a field for immediate interaction but a collection of objects that can be distinguished, categorised, and manipulated according to their perceived functions and affordances. In the last, the logical mode, the interaction with the environment reaches the highest level of abstraction. Objects previously identified in the psychic mode become parts within a network of relations. The individual perceives and engages with the surroundings through formal or logical structures, understanding that objects can signify beyond their materiality. This mode implies a significant cognitive leap: the environment is conceptualised through systems of relations, allowing for symbolic thought and abstract models of understanding to emerge.

Consequently, the systematic organisation and classification of the milieu serve as a catalyst for the emergence of intelligent conduct. Iterative interactions with environmental stimuli expand the range of organisational and classification possibilities. This perspective defines home as a domain where novelty with regard to vital categories is inherently restricted, and where habitual interactions take place, stimulating creative problem-solving and intelligent behaviours.

Live inhabit

The word habit is commonly used to refer to a regular practice repeated over time. In Latin, it literally means 'holding a particular condition', highlighting that habituation encompasses a constant process of resolving the disparate tensions between different orders of magnitude to effectively restore the continuity of activity.⁶¹ Habits could be conceptualised as opened paths within a multitude of potential behaviours delineating ways of acting that are both established and subject to further exploration. They pertain to relationships already negotiated and still under negotiation. Through this lens, habituation should be understood as an active, dynamic process, that is, an ongoing negotiation between the organism and its surroundings. This perspective on habituation emphasises its adaptive and anticipatory nature. It underscores that habits serve not just as shortcuts for routine actions but as essential strategies for balancing and integrating across different scales of experience and action. In doing so, habits facilitate a sustained engagement between the organism and the milieu, while re-evaluating whether the established patterns of interaction remain beneficial and are worth maintaining. Additionally, the formation of

habitual responses to environmental stimuli presupposes an organised and classified environment. Organisation and classification allow for the identification and repetition of specific behaviours in response to certain stimuli. In the context of this article, spatiotemporal constraints are behavioural constraints that delineate the possible from the impossible, thereby fostering the emergence of coherent behavioural patterns. Through repetition, these organised and classified relations enhance relationality by reinforcing context classification.

In *Steps to an Ecology of Mind*, Gregory Bateson explores the formation of habits as emerging from continuous interactions with environmental stimuli. He delves into the processes involved in habit formation, emphasising the role of positive and negative reinforcements in shaping and maintaining behavioural patterns.⁶² This mechanism driving the formation of habits positions them not merely as repetitive actions but as deeply rooted in the organism's interaction with its environment and its inherent drive towards adaptation and learning. For Bateson, habits are not solely the result of direct experience but are influenced by various forms of learning and interaction within a socio-technological context. Habitual responses stem from a complex patterning that is not fixed but evolves through feedback loops. By superposing and interconnecting many feedback loops, Bateson asserts that organisms not only solve specific problems but also develop generalised strategies for addressing classes of problems.⁶³ Habits are effectively formed and function within the realm of propositions that possess a general or repetitive nature, embodying truths that recur over time or across situations. Positioned between total stability and total instability, habits serve as a foundation for efficient functioning, simultaneously facilitating growth, adaptation and the emergence of new possibilities.

The discourse on ecological and behavioural adaptation expands further through the contributions of Gibson and Simondon. Gibson argues that the natural environment offers many ways of life, with different species developing distinct modes of existence. Furthermore, he emphasises that a niche refers more to how an animal lives than to where it lives.⁶⁴ In a similar point, Simondon identifies species distinction as emanating not solely from physical form but through behavioural schemas.⁶⁵ Both statements highlight that species are characterised by their activities and the ways they are carried out. Bateson expands on this by suggesting that the self is an aggregate of habitual perceptual and adaptive actions augmented by immanent states of action. However, although the formation of habits through repeated environmental interactions, and their assessment across diverse contexts, facilitates adaptation, it also signifies a reluctance to deviate from known

paths. The genesis of change is thus intricately connected to these dual forces of resistance to alteration and the adaptive imperative to engage with new realities. Within a biological analogue, the formation of a scar, where the body's resistance to change precipitates the creation of new tissue, mirrors how behavioural patterns stabilise yet allow for the emergence of novelty through adaptation. The emergence of novel behaviours is linked to the resistance to modifying established behavioural patterns, suggesting that novelty can emerge from ongoing efforts to maintain systemic stability. Novelty, in this sense, comes out of nuanced alterations to established relations within the milieu; it is an epigenetic function.

Shifting the focus from *where* we live to *how* we live emphasises that to inhabit is to actively and rhythmically engage with the environment. Home is definitely a territory with less novelty regarding vital categories. As such, it offers a perceptual (and physical) organisation and classification of the milieu that enhances the development of habitual ways of responding to stimuli. From this angle, the home could be reconceptualised as an apparatus for the making of habits, a territory where acts of habituation, or towards making the environment more intelligible, take place. Home in its essence emerges as a value-rich locus where the spectrum between differentials expands, creating pathways for novel interactions. This perspective advocates for an ontology of space as a multitude of activity species (bedrooming, kitchening and so on), instead of a set of species of spaces.⁶⁶ Each room stands as a field of negotiation, a mediator between the known and the unknown, enabling intelligent conduct that stems from established behavioural morphologies. Home's dynamic and non-deterministic nature allows a form of sloppy programming, meaning that the process of habituation evolves through trial, error, and adjustment. It could be posited that architecture is essentially about designing faulty laboratories, that is, constrained spaces that enable experimentation, actively participating in the way an individual perceives and interacts with their environment.

Bateson connects habit formation with an 'economy of consciousness', a process through which actions become automated, freeing up cognitive resources for novel challenges.⁶⁷ This automation of habitual actions occurs as the cognitive processes extend beyond the physical confines of a body, engaging with and augmented by its immediate environment. The home in this context transforms into an instrument of perception, acting as a dynamic cognitive extension that amplifies our abilities to perceive and interact with that environment.⁶⁸ This perspective is further enriched by Andy Clark and David Chalmers's discussion of the extended mind, which posits that cognitive processes do not solely reside within the brain but extend into

the external environment through a system of feedback loops and interactions. They write:

The human organism is linked with an external entity in a two-way interaction, creating a coupled system that can be seen as a cognitive system in its own right. All the components in the system play an active causal role, and they jointly govern behaviour. If we remove the external component the system's behavioural competence will drop, just as it would if we removed part of its brain.⁶⁹

Aligned with the above, Stamati Portanova argues that clocks also extend our perception: 'They are the temporal extensions of the mind that enable a timeless order of time to appear through an objectified scheme (such as the scheme of seconds, minutes, and hours).'⁷⁰ Both homes and clocks are dynamic cognitive extensions, enhancing our capacity to perceive and engage with the environment by segmenting, organising, and classifying the experiential flow through the repeated functions they afford.

If you are happy and you know it, clap your hands

Intelligent conduct emerges in environments that are systematically organised and classified; where the formation of spatial, temporal, and behavioural patterns enables the revisiting of past experiences (or knowledge). Such an approach requires re-evaluating intelligence beyond cognitive processes or conscious decision-making, and recognising it as an intrinsic process of the living world. (Embryogenesis epitomises this form of intelligence, involving highly organised, intricate sequences of repetitive events that transform a fertilised egg into a complex organism.) The segmentation of experiential flow serves as an impetus towards the expansion of an individual's physical and cognitive capacities, and the making of the milieu more (and more) intelligible. In the context of this article, to make something intelligible means to create pathways for returning to it, thus allowing continued engagement. The ability to return and re-engage establishes a 'timeless order of time', extending one's sense of self across the spatio-temporal continuum.⁷¹

Hence, intelligence acts as an active opposition to time's irreversibility. That explains the intrinsic relationship between intelligence and knowledge, as knowledge serves as the medium through which we revisit our known experiences and anticipate our unknown future. Nevertheless, intelligence should not be absorbed by knowledge, since informed conduct is not always intelligent. We could argue that knowledge *is* history, while intelligence *has* history. In other words, knowledge enables the revisiting of past experiences, while intelligence expands our perceptive mechanisms for multiplying experiences. This view frames

intelligence as both reflective (learning from previous interactions) and expansive (seeking new interactions). Therefore, intelligence should not be seen as a fixed property but rather as an emergent process that is fundamentally symbiotic, responsive and anticipatory.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. Stamatia Portanova, *Who's Time is It? Asocial Robots, Syncolonialism, and Artificial Chronological Intelligence* (London: Sternberg Press, 2021), 67.
2. Henri Bergson, *Time and Free Will: An essay on the Immediate Data of Consciousness*, trans. F. L. Pogson (London: George Allen & Unwin LTD, 1910), 226–27.
3. Portanova, *Who's Time is It*, 67.
4. Gilbert Simondon, *On the Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis: Univocal, 2017), 176.
5. Stavros Kousoulas, *Architectural Technicities: A Foray into Larval Space* (New York: Routledge, 2023), 60–61.
6. In *A Thousand Plateaus*, Deleuze and Guattari introduce the concept of the machinic as a function that can repeat itself, emphasising its dynamic and iterative nature within various systems and contexts. The notion of the machinic function repeating itself is linked to the idea of the refrain, where certain patterns or functions cycle back and reappear in different forms. This concept suggests that machinic processes are not linear or one-time occurrences but can exhibit repetitive and cyclical qualities. Just as a refrain in music recurs throughout a composition, the machinic function can manifest in different ways, cycling back and reappearing in various contexts and forms. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia 2*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1980), 349.
7. The term 'motricity' is used by Simondon to describe spontaneous motor activity, suggesting that movement is primary and precedes the structured reception of sensory signals from the environment. As such, perception emerges as a progressive organisation and transformation of motor anticipations. Gilbert Simondon, *Imagination and Invention*, trans. Joe Hughes and Christophe Wall-Romana (Minneapolis: Minnesota University Press, 2022).

8. Sanford Kwinter, *Architectures of Time: Toward a Theory of the Event in Modernist Culture* (Cambridge, MA: MIT Press, 2033), 17.
9. Ibid.
10. Ibid.
11. Félix Guattari, *Psychoanalysis and Transversality: Texts and Interviews 1955–1971*, trans. Ames Hodges (Los Angeles: Semiotext(e), 2015).
12. I refer here to the popular novel by Ken Kesey, *One Flew Over the Cuckoo's Nest* (New York: Viking Press, 1962).
13. I refer here to Aldous Huxley, *The Doors of Perception* (London: Chatto & Windus, 1954).
14. Gregory Bateson, *Mind and Nature: A Necessary Unity* (New York: E. P. Dutton, 1979), 29.
15. Lewis Mumford, *Technics and Civilization* (London: Routledge & Kegan Paul, 1934), 16.
16. Kwinter, *Architectures of Time*, 12.
17. Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 151–52.
18. Ibid., 172. Intra-activity, as discussed in the context of agential realism, refers to the dynamic and reciprocal interactions between entities that are mutually constitutive. Instead of viewing entities as independent and separate objects, intra-activity emphasises the entangled relationships and co-constitutive processes through which entities come into being and shape one another.
19. For more information about the installation, see <https://www.tate.org.uk/whats-on/tate-modern/christian-marclay-clock>.
20. Kwinter, *Architectures of Time*, 4–5.
21. Bergson, *Matter and Memory*, trans. Nancy Margaret Paul and W. Scott Palmer (London: Allen and Unwin, 1911), vii.
22. Simondon, *Imagination and Invention*, 29.
23. Andreia Machado Oliveira and Felix Rebolledo Palazuelos, 'Simondon's Concept of the Image: At the Junction of the Technological and the Animal', in *Proceedings of the 22nd International Symposium on Electronic Art, ISEA2016* (Hong Kong, 2016), 103.
24. Simondon, *Imagination and Invention*, 29.
25. Ibid., xxvi.
26. See Chapter 1 in Alicia Juarrero, *Context Changes Everything: How Constraints Create Coherence* (MIT Press, 2023), 3–20.
27. Kwinter, *Architectures of Time*, 5.
28. Ibid.
29. Simondon, *Imagination and Invention*, 30.
30. Ibid., 29.
31. Ibid., 30.
32. Ibid., 55.
33. Ibid., 74.
34. Ibid.
35. Raymond Ruyer introduced the concept of absolute survey suggesting perception as an indivisible domain of linkages, thereby

- revealing the immediate self-coherence within the perceptual field. Jérôme Rosanvallon, 'What Surveys Itself? Ruyerian Neofinalism and DeleuzoGuattarian Immanentism', *Journal of the CIPH* 99, no. 1 (2021): 71, 79.
36. Bateson, *Mind and Nature*, 17.
 37. Ibid., 13.
 38. Simondon, *Imagination and Invention*, 31.
 39. Bateson, *Mind and Nature*, 29.
 40. Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983), 339–40.
 41. Rosanvallon, 'What Surveys Itself?', 78–79.
 42. Steven Shaviro, 'Deleuze's Encounter with Whitehead', no date, available at <http://www.shaviro.com/Othertexts/DeleuzeWhitehead.pdf>.
 43. A. M. Turing, 'The Chemical Basis of Morphogenesis', *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences* 237, no. 641 (August 1952): 71–72.
 44. Juarrero, *Context Changes Everything*, 27.
 45. Ibid.
 46. Ibid., 41.
 47. Ibid., 42.
 48. Maximilian Schlosshauer, 'Quantum Decoherence' *Physics Reports* 831 (November 2019): 1–57.
 49. H. J. Jackson, 'Coleridge, Etymology and Etymologic', *Journal of the History of Ideas* 44, no. 1 (1983): 85. Coleridge was a poet, literary critic and philosopher associated with the Romantic movement in England. He had a special interest in etymology, and he often delved into the connections between language, thought, and perception in a playful manner.
 50. James J. Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, 1986), 127. For a book-length theoretical work discussing the concepts of J. J. Gibson and ecological psychology, see Andrej Radman, *Gibsonism: Ecologies of Architecture* (doctoral thesis, TU Delft, 2012), <http://resolver.tudelft.nl/uuid:4035de29-3b68-4dfa-b0fb-668bf69d54b5>.
 51. Gibson writes: 'The activity of orienting and that of exploring and selecting – the commonsense faculty of attending – is seen to be one that extracts the external information from the stimulus flux while registering the change as subjective feeling. This feedback system also, of course, controls the performatory activity of the body, the executive systems of behavior proper as distinguished from perception, but that aspect of proprioception lies outside the scope of this book.' James J. Gibson. *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), 320.
 52. Gibson, *The Ecological Approach to Visual Perception*, 134.
 53. Gibson questions why humans have altered the shapes and substances of their environment. As he asserts, 'it is to change what the environment affords them, to make more available what benefits them and less pressing what injures them.' Ibid., 130.
 54. Barad, *Meeting the Universe Halfway*, 177.
 55. Juarrero uses the concept of sloppy programming in an interview on the API Resilience podcast, available at <https://pronovix.com/api-resilience/complex-systems-remember-their-past-conversation-prof-alicia-juarrero-part-1>.
 56. Simondon, *Imagination and Invention*, 78.
 57. Ibid., 63.
 58. Ibid., 63–64.
 59. Ibid.
 60. Ibid., 41–42.
 61. This concept of resolving tensions between different orders of magnitude in Simondon's philosophy pertains to the dynamic processes of individuation and the transformation of potentials into actualised forms within complex systems. Disparate tensions exist at various levels or scales within a system, representing different orders of magnitude. Through the dynamic process of individuation, these tensions are resolved and transformed into a coherent form. Simondon, *Individuation*, xxii.
 62. Gregory Bateson, *Steps to an Ecology of Mind* (New York: Ballantine Books, 1978), 241.
 63. Ibid., 279.
 64. Ibid., 128.
 65. Simondon, *Imagination and Invention*, 31.
 66. I refer here to Georges Perec, *Species of Spaces and Other Pieces*, trans. John Sturrock (London: Penguin Books, 1997).
 67. Bateson, *Steps to an Ecology of Mind*, 151.
 68. Merleau-Ponty in *Phenomenology of Perception* uses the example of the cane to emphasise that instruments can extend our bodily boundaries and fundamentally alter our engagement with the world as extensions of our sensory perception: 'Habit does not consist in interpreting the pressure of the cane on the hand, the signs of certain positions of the cane, and then these positions as signs of an external object – for the habit relieves us of this very task ... the cane is no longer an object that the blind man would perceive, it has become an instrument with which he perceives.' Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge, 2002), 176.
 69. Andy Clark and David Chalmers, 'The Extended Mind', *Analysis* 58, no. 1 (January 1998): 8–9.
 70. Portanova, *Who's Time is It?*, 20.
 71. Ibid., 28.

Biography

Lena Galanopoulou is a PhD candidate at the School of Architecture of the National Technical University of Athens (NTUA) and a scholar of the Hellenic Foundation for Research and Innovation (HFRI). She holds an MArch (equivalent diploma, NTUA) in architectural engineering and an MSc in architectural research (at NTUA's

interdisciplinary postgraduate programme, Theory of Knowledge). She is a licensed member of the Technical Chamber of Greece, participating in Panhellenic architectural competitions and with design experience in projects of various scales. Galanopoulou was part of NTUA's teaching staff for the undergraduate courses of architectural design between 2017 and 2022. Since February 2023, she has been a guest researcher of architecture philosophy and theory (APT) at the TU Delft Faculty of Architecture and the Built Environment.

Everyone Knows Who is Stupid Around Here

Sinan Cem Kızıl and Bengisu Derebaşı

Middle East Technical University, Türkiye

Corresponding Author Mail

sckizil@metu.edu.tr

ORCID

Sinan Cem Kızıl <https://orcid.org/0000-0003-4126-8567>

Bengisu Derebaşı <https://orcid.org/0000-0002-7296-8104>

How to Cite

Sinan Cem Kızıl and Bengisu Derebaşı, 'Everyone Knows Who is Stupid Around Here', *Footprint* 36 (2025): 33–48, <https://doi.org/10.59490/footprint.19.1.7493>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

Far from alien to our daily lives, stupidity seems evident to most people. However, discerning what is stupid may not be as easy as it looks, especially when talking about architecture. To specify what architectural stupidity is, we must acknowledge that not all failures of architecture are 'errors', some are worse. This article discusses the already architecturally situated concept of error and distinguishes it from stupidity in terms of 'technicities' that fail. The Simondonian concept of technicity helps to locate error and stupidity according to their mutative potentials. We argue that the difference between the two is materialised in a failed theme park in Ankara. Planned as one of the municipality's signature projects of the 2010s, Ankapark damages the tangible and intangible relationships within the land it sits on, Atatürk Forest Farm. This park, with its seemingly erroneous processes of engagement with the built environment and human and non-human inhabitants, bypasses any rationale and transforms a productive urban territory into an intransitive field for knowledge systems, institutions

and disciplines. The cancerous mutation it feeds does not inform any knowledge system to the point that 'it can no longer stand itself', providing only 'stupidity in stupidity'.

Keywords

Stupidity, error, failed architecture, theme park

Everyone knows who is stupid around here and people of Ankara feel in their bones what stupid architecture is. In 2019, a research-based design studio titled 'Deranged Territories' discussed one of the most contested terrains in Turkey. Overall, it was an attempt to recover something useful for architectural knowledge and propose an adaptation strategy for the one of the biggest fiascos of the history of the republic.¹ The evident stupidity of the fiasco left little room to discuss definition of the term. With the perspective gained in time, we will use this chance to specify why and how the people of Ankara know, without an in-depth philosophical inquiry, what architectural stupidity is.

The specific project that painted a clear picture of stupid architecture for the people of Ankara is a deserted theme park. We argue that this specific failure, Ankapark, presents a solid example of what we may call architectural stupidity in its crossing of the borders of a simple error or a generative mutation. To distinguish the border between the related yet distinct concepts of stupidity and error, we will first explore the latter. A term that has been long rooted in architectural theory, error is innately related to order, failure and mistake. A discussion of Ankapark with its process of 'becoming' or impossible being will then decode the distinction between error and stupidity. Lastly, we will end with non-concluding but provocative remarks on why Ankapark is stupid and not a simple error.²

By differentiating stupidity from error, we aim to expand the discussion of failures of and in architecture. Starting with the initial claim that error is possible only within a well-set

order, we understand order – despite its manifold history, various interpretations, and loaded definitions – as a regulating mechanism that gives rise to a minimum ground of commensurability, coherency and consistency. An order may refer to a rationale as the order of reasoning, a grid as a formal reflection of a geometrical organisation, an algorithm as a function that defines a mathematical relationality, or a stratification – in metaphorical or geological sense – as the structuring of many layers, or it may refer to the rules of a language, to a discursive practice or an institution. Those orders, whether abstract, like laws, or concrete, like master plans, are mediators of our affinities with the external. To be precise, they are ‘technicities’ that define our modes of relation with the world. This Simondonian term is crucial for our notion of order and, consequently, error and stupidity of architecture as it allows thinking beyond the user-tool distinction, instead focusing on their mutative associations. In other words, in such a conception, order not only modifies the external world but also the subject that is ordering its environment.

Far from being alien to architectural discourse, the historical change in the meanings of the terms order and error turned them into ordinary categories that lost their specificity and, thus, their operability for architectural thinking. Dismissed from the conceptual library of architecture, the term order has been replaced with forms, bodies, isms, and many more. However, the ambivalence of the term error still begs further questioning as we see that not every failure of architecture is the same, and stupidity and error differ in certain senses. In *Difference and Repetition*, Gilles Deleuze defines error as the implication of the presence of a common sense derived from a partial or constrained baseline or ground for agreement, while he refers to stupidity as ‘neither the ground nor the individual’ but the lack of relationship between them.³ In our parallel understanding, the difference between stupidity and error yields the specific kind of mutation – a cancerous one, we might say – developed within orders or technicities. We argue that this specific theme park, Ankapark, with its failures, corruption in planning, design, construction, and with its neglect of the environment, from personal to social to non-human domains, presents a strong case of what architectural stupidity might be.

Ambiguity of error in architecture

In close relation to the technicities that define, modify and multiply the modes of existence of both the environment and the user, error is understood as the ‘possible misadventure of thought’.⁴ It can also be understood to imply common sense, and as possible to be ‘identified within a well-defined process’.⁵ Although it seems that error is the negative of any term implying structure, system, rationale, order and productivity, this is not the case: the definition of

error is as historical as any other concept. The dictionary definition of the word has mutated from ‘wandering’, which may imply a process of creative exploration, into ‘go astray, transgress’ and ‘mistake’, meaning to be wrong or on the wrong path.⁶

As the dictionary definition of the word changes, the conception of the term in different regimes of thought also differs. Enlightenment thought defines its task as the ‘release of men from error and prejudice – forms of disorder – and as the achievement of truth and human welfare – forms of order’.⁷ Relatedly, this dogmatic image of thought referred to error as ‘something to be eliminated in the name of truth and progress’.⁸ These limited and bounded definitions situate error in opposition to order and truth, aiming to exclude errors identified as the enemy of progress. Error, the phenomenon that unsettles an ordered unity, jeopardises the homogeneous wholistic constructs of things and processes.

This tension between order and error, particularly within the framework of Enlightenment thought, has been a focal point for critical theorists. The critique of the homogeneous whole is extensive and diverse within critical theory. Although unfolding this extensive critique of the homogeneous whole in a structured manner falls beyond the scope of this article, a parallel, anachronic reading of Theodor Adorno and Lorraine Daston might consolidate the proposition that the relationship between order and error is not always in opposition. Acknowledging that they are from different intellectual traditions – Adorno, a critical theorist and philosopher, shaped intellectual thought in the mid-twentieth century; Daston is a contemporary historian of science actively contributing to the fields of scientific reasoning and history of objectivity – their shared interest in the relationship between order and error, and in limits of human knowledge suggests an evolving continuity in the themes of structure and contingency, rationality and irrationality.

This critique of the homogeneous whole is exemplified in Adorno’s *Negative Dialectics*, where he proposes an ‘anti-system’ that flouts traditional frameworks.⁹ He disavows the homogeneous and holistic understanding of Enlightenment thought with its imposition of a process of thinking that prioritises the principles of unity. Although it is known that totalitarian constructions and defined unities might come with gradations and differences, the focus of Adorno’s criticism is the tendency to accept these without acknowledging possible heterogeneity within them. To him, the faux belief in total harmony and unity leads to illusions regarding orders and errors. Rather than having an illusory view that highlights unity, acknowledging errors as the necessary moments of dialectical tension reveals the complexities and contradictions beneath the apparent order, paving the way for new understandings.

From a different disciplinary perspective, yet aligning with Adorno's understanding, Lorraine Daston discusses the rigid assumption that order and error are in direct opposition. Daston says that although Enlightenment thought draws the line between error and order with ease and in a rather straightforward manner, this seemingly fixed opposition is a later adoption. She discusses historical moments where the potential symbiotic relationship between error and order is put into operation. In her book *Wonders and the Order of Nature*, she connects order with the ordinary, while referring to errors as wonders – deviant and irregular, yet instrumental in studying and defining the ordinary.¹⁰ One of the examples she gives is Francis Bacon, whose understanding of natural history and philosophy does not exclude wonders, abnormalities and strange situations. Calling these 'deviating instances', Bacon listed both 'singular' and 'bordering instances' and classified these under the title of 'nature erring'.¹¹ Bacon created a collection of what is new, rare and unusual. For Daston, the motive for collecting 'strange facts', nature's error or particularities is to 'unseat the home truths and bland axiom[s]' and to correct generalisations through an investigation of the unusual.¹² As opposed to eliminating errors for the sake of achieving a total, universal truth, Bacon embraced differences and used them to correct uniform conditions.

This exploration of error and its place within scientific and philosophical inquiry highlights a nuanced understanding that opens up a way of thinking beyond accepting the error-order pair as merely opposites. One of the characteristics of Enlightenment thought, the obsession with homogeneous unity, is also related to an urge to achieve an ideal state. For Horkheimer and Adorno, Enlightenment thought 'recognizes being and occurrence in unity' on which everything is dependent and in which multiplicities are reduced.¹³ In a way, dissimilarities are reduced to fit into a holistic objective and idealised system. Another reference that depicts the counter-relationality of error to the 'ideal' comes from history, a page of an anatomy atlas by William Cheselden from 1733.¹⁴ This page shows an animal skeleton hung upside down, and a camera obscura set up to depict the skeleton. Peter Galison, a historian of science, reads this image positioned at the intersection of the ideal and the erroneous. This skeleton, according to Galison despite the set-up and the effort to draw it as it is, is fixed and corrected during the process of drawing.¹⁵ The skeleton, which is supposed to enhance scientific knowledge, is not drawn with all its flaws and deficient parts but depicted as what this particular instance aspires to be.¹⁶ The flaws and errors are corrected, eliminating the particularities.

Diverse disciplines have used the concept of error in relation to unity to correct the non-ideal or to redefine the rule. In western history, the primary focus of architectural

treatises is the concept of order. The major use of the term in these treatises was to properly define the act of building, albeit in different manners. The reference to error in such order-oriented texts is rare and pragmatic. Although here, the tracing of error within this context inevitably relies on the disputed Western white male discourse, this 'canonical' historical lineage of architecture gives an insight into the ambiguous nature of the concept 'error'. A brief examination of the frequently referenced treatises, though not exhaustive, can provide an understanding of error in relation to order. In Vitruvius's text, *The Ten Books on Architecture*, the treatise recognised as the earliest written work on architecture surviving from antiquity, errors are defined as defects in building methods or material selection. Vitruvius does not systematise the rules and the errors challenging those rules, but they are interwoven throughout the narrative. He treats errors as if they were a possible part of any process and uses them to differentiate the proper from the improper. Substituting the word 'defect' for 'error', Alberti building upon the foundations of Vitruvius, in turn, categorises errors as innate and external in this work *On Architecture*. He further specifies this two-fold structuring as 'errors of mind' and 'errors of hand.' The first group refers to more serious mistakes, whereas the latter refers to practical mistakes occurring during the construction phase. The striking point is that Alberti leaves an in-between space between order and error. This is 'amendment,' meaning improvement of the work without completely obeying the fixed rules. Such breathing space blurs the border between order and error by highlighting the individual talent and drive of the architect. Although an error is perceived as something that needs to be corrected, there is another concept that accepts a certain level of straying from the well-defined order. Other treatises also use terms that can be related to the idea of error. For example, Serlio introduces the term '*accidenti*'.¹⁷ In the introduction to a contemporary edition of the text, Vaughan Hart and Peter Hicks state that the term '*accidenti*' has nothing to do with accident; they argue that '*accidenti*' is used for 'unusual, but predictable enough architectural situations.'¹⁸ Palladio, in his turn, uses the word 'fault' to define the deviant productions of architecture. Perrault mentions 'abuses' that encompass diverse conditions such as wall and column relations, the alteration of orders, and treating parts of the column differently. However, to a certain extent, he thinks that some alterations are good as they pave the way for inventions.¹⁹

There is, however, a treatise that dwells specifically on errors in architecture. This text, entitled *Trattato Sopra Gli Errori Degli Architetti* (Treatise on the errors of architects), was written by Teofilo Gallaccini in 1625.²⁰ Gallaccini wrote on these diverse subjects, but his only

published manuscript on architecture is *Trattato Sopra Gli Errori Degli Architetti*.²¹ It was published long after Gallaccini's death in 1767, and expanded with commentaries by Antonia Visentini. The treatise consists of three parts, arranged according to the phases of construction as also understood by Alberti. In Part I, errors including site selection and material selection denote pre-construction decisions. Part II is reserved for design-related issues such as the proportions of the parts, placement of elements, and includes a chapter related to the 'abuses' 'modern' architects had perpetrated. The last part focuses largely on construction related issues. There are many plates illustrating the erroneous applications and their corrections. What is interesting here is that the author displays no reservations regarding what is wrong and what is right. His authoritarian listing of errors resonates with the proposition that 'error acquires a sense only once the play of thought ceases to be speculative and becomes a quiz.'²²

Affirming the error

All in all, within the treatises errors in architecture are alternatively defined as 'faults', 'defects', 'abuses', '*accidenti*' with reference to the appropriateness of the work. In more accurate words, the terms above describe a specific mode of relationality between the user, the object, the tool and the environment in a broad sense. The lines that determine the contours of a Doric column are only possible with the available tools, the specific type of stone, the tools' ability to perform in this specific material, the skill of the stone mason, and the eye and the mind of the architect. Apart from these forces that draw the lines, the fear of producing architecture in an inappropriate way also draws the limits of the orders defined. Although none of these terms discern a productive potential, Alberti's and Perrault's interpretations specifically leave a neutral, indecisive ground between order and error. Alberti does that by adding a third term, 'amendment' to the duality of order and error, while Perrault, with his definition of arbitrary beauty, highlights the essence of design that does not always comply with the fixed rules. Both Alberti and Perrault assign a certain degree of flexibility to the relationship between order and error.

This indecisive ground between order and error is also affirmed by various contemporary thinkers and makers of architecture. Sean Keller highlights the use of error in architecture as a 'compositional method that not only tolerates but is built upon, a range of "user errors" to generate the work' with an analogy to music.²³ Relating this positioning of error with John Ruskin's understanding of the Gothic, Keller argues that 'classicism overrides the human variation and imperfection with its strict perfectionism, whereas Gothic is formed through these imperfections.'²⁴

Aslı Serbest and Mona Mahall challenge error with the term 'chance' within the framework of cybernetics, referring to Gordon Pask, an influential figure for the architects. According to Pask, 'error should be regarded as a figure of innovation or contradiction against the foil of a given context or environment.'²⁵ Such a recognition of error as a 'figure of innovation' has been discussed in relation to the works of Michelangelo.²⁶ Daniel Sherer opens up this discussion by referring to Vasari's evaluation of Michelangelo, stating that he was capable of distorting the rules, and in this way, he became the inventor of certain formations in architecture. Vasari continues by differentiating Michelangelo from the other architects of the time and warns them not to stray from the conventions. Thus, he singles out Michelangelo's process of invention through seemingly erroneous production – here defined as wandering and deviating from the conventional.

In his biennale project *Moving Arrows, Eros, and Other Errors*, Peter Eisenman explicitly expands the relationship between error and architecture as a misreading. The project puts three different texts of the same tragedy, *Romeo and Juliet*, into dialogue and transforms the most definite type of relationality, that is in between Romeo and Juliet, into a free play with the traces present in the narratives such as the castles of both characters, the cemetery and the city walls. The common themes in the story – union, division, and their dialectical relationship – are retold through architectural models, diagrams and drawings with a series of superpositions and juxtapositions, and these creative series are multiplied through the process of scaling. With these acts of juxtaposition and scaling, Eisenman 'introduces the possibility of error, of a text not leading to a truth or a valued conclusion but rather to a sequential tissue of misreading-errors that produce the condition for each new level of reading.'²⁷ He specifies error as a 'misreading' that will eventually lead to a creative process.

Even though the theories are radically different, they find similar value in errors. Stavros Kousoulas mentions 'spatial stuttering' as a function that recognises the potential inherent in deviations to communicate through differences. He argues that plasticity and stuttering are forms of interaction with open systems.²⁸ He specifies spatial stuttering as 'any attempt to disrupt metastability' creating 'peculiar moments of architectural noise, able to free architecture from itself and to put it in contact with an intransitive field.'²⁹ The basic involuntary act of stuttering cannot be reduced to a gap between the letters or repeating a syllable multiple times. In that line of thought, the possible error, voluntary or involuntary, can be read in parallel to the act of stuttering that is a change in an order, which, in this case, is the order of letters, the syllables, and the rhythm in between, or a mutation within a set system. That mutation

redefines the relationality with the technicities, and it reproduces and transforms the interacting forces and components. Therefore, it is productive, not exhausting.

Indeed, with the rapid demystification of Enlightenment myths such as identity, wholeness, universality, truth, beauty and progression in the second half of the twentieth century with the aid of cybernetic and relational theories, error has been established as a productive force within diverse philosophies. Those alternatives, following an affirmative line of thought, have distanced themselves from the grand project of the Enlightenment and its philosophical lineages that prioritise dialectical thinking, confining difference to the negative as in antithesis.³⁰ Clearly, the error is too complex and rich a notion to be understood only in terms of a negative, something to be neglected or interpolated and normalised. Errors are failures of systems, but depending on the complexity and rigidity of the system, an error may lead to reconfiguration and adaptation of the system.

Kinds of failures

The discipline of architecture records and interprets these errors in various formats. This self-reflection is a part of the reticularity between the technical object – the architectural artifact in this case – and the technical individuals – the users or inhabitants as well as the architects. This means that an error – purely negative or endlessly affirmed – always entails something as it is deployed in relation to something else. This gives rise to new technical relationships and reconfigures the technicity. In the case of complex arrangements of institutions, technics, tools and concepts such as those in architectural production, every product returns to human life as a source of knowledge.

Errors of the discipline, in this sense, always mean something and continue to be a part of the reticularity between the object and the subject, even after their disappearance. We may define architectural failures as the largest errors of praxis, with wide-reaching consequences for the discipline. Failed architectures of modernist experiments are suitable examples. The first so-called error is the infamous example of the Pruitt-Igoe building, which has become a representative of the conflict between the technical object and the individual until its televised destruction in 1972. In the context of this specific project, Katherine G. Bristol discusses the fiscal crisis and the institutional problems related to social housing projects in the United States. Architecture has failed, but is it all architecture's fault?³¹

The second error is from the French occupation of Algiers from 1830 to 1962. Zeynep Çelik in her article 'Gendered Spaces in Colonial Algiers' elaborates on the colonial and gendered gaze of the European architects and

their irrelevance to the actual context of the city Casbah. Housing projects under colonial rule were not being used as they had been intended. Çelik says that 'French architects were struggling to rationalize, tame, and control indigenous forms.'³² Women were claiming the inaccessible roofs as terraces and new walls were built for privacy. That residents reterritorialised the architecture and made it more than itself points to a radical fracture between architecture and society. Later, demonstrations and violence surrounding these projects solidified the housing projects' status as failed architectures.³³

In both the examples of Pruitt-Igoe and Algiers, cultural and political factors play a major role in the construction of the image of failure. Attributing those problems to the discipline of architecture only becomes possible when architecture as material construction is understood as an agency that can substantially affect cultural and political domains, which is, ironically, the same position as that of the modernist architects of the failed projects who claim an instrumental role for architecture. The logical consequence would be either that we (as humanity) have not yet been able to propose an architectural way of knowing that has an extended agency over events, or that those failures are not architectural at all.

Both answers lead to different types of knowledge and require different types of research programmes. These failures inform the discipline and rearticulate to some degree what architecture is. History continues to live on not as a static memory confined to the past but as a potential informing the future. Within this potential, the difference between error and stupidity materialises. Ankapark, as an architectural failure or error of neoliberal urbanisation, does not inform architecture in this way. Blocking the inter-scalar knowledge systems and ignoring cultural, political, economic and ecological relations, the case of Ankapark cannot be summarised as a simple failure. It is a product of human labour that has lost its capacity to fold back into society, and consequently exhausts the technicities that produce it. Here, we propose a definition of stupidity in relation to a tool or modified environment's capacity to reconfigure technical relations through uninterrupted feedback between the user and the tool, constructing both at the same time.

Crossing the threshold of error: the stupidity of Ankapark

Ankapark was one of the most popular and visible projects in Ankara in the 2010s. However, this popularity stems mostly from the park's financial and political failures. The reports and studies from academia and civic organisations have a great share in this visibility. It was the mainstream

media rather than the opinions of experts that produced the social image of failure surrounding the project. The financial burden that the project placed on the people of Ankara was the main focus of this increased media visibility in the days when the 'author' of the project, the mayor of the town, moved away from the governing party and the municipality. However, the sensational image created by the photographs of the desolate and decaying park, as well as the figures announced by the next mayor in press conferences, constitute only a portion of the extent of the failure of the park.

Ankapark, both in terms of its meaning in the city and its architectural programme, is like a distorted version of the Atatürk Forest Farm on which it was built, becoming postmodern Ankara's response to the modernisation project of the early republic. The Atatürk Forest Farm was established by the founder of the republic in 1925 with the intention of modernising the country. Experts in planning, agriculture and botany, archaeologists, engineers and scientists from several other disciplines were commissioned to transform the barren land into a 'model' to improve the agricultural and industrial activities as an important step in efforts toward self-sufficiency.³⁴ With the initiation of the theme park, the productive territory of the Atatürk Forest Farm has deteriorated into a pure space of consumption. The extreme consumption of the theme park does not even emanate from the changing function of the land. It was planned to make profit even during construction, to the extent that it did not care about its environment, including its owners.³⁵ In the end, the agencies that designed, constructed and managed the park failed to keep making a profit after the official opening, and even lost their political power. Emre Sevim, in the piece he wrote for the journal of the Turkish Chamber of Architects, points out how the privatisation of the Forest Farm grounds and the creation of new rent relations were neither feasible nor sustainable. Sevim underlines the financial irrationality of the whole operation, referring to many reports of the time. One of them, an infographic from the Turkish Chamber of City Planners, points out the misuse of land and public resources. For example, approximately three million dollars (2.9 million euros) were spent only on dinosaur statues in 2015.³⁶

We will discuss the 'more than an error' condition of this failure with respect to technicities that a failure instigates. Those are financial liabilities, the concept of the theme park, and the construction of devices and toys. They were domains of engagement between society, the terrain of the Atatürk Forest Farm and the city. These are orders, systems, concepts and tools that mediate human labour and project it onto the material of the earth, modifying both human and non-human in the process. An error, in this sense, can be affirmed easily, whether as a mutation or a

'line of flight.' However, stupidity seems to amount to something different.

The first evident failure of Ankapark is its misconception about the definition of a theme park. When proper construction of the park, concerned its reliability and safety, does not take precedence, the theme park programme cannot sustain itself. Although the eclectic simulation within the park resembles international examples on paper, what happened during the zoning, construction and opening stages shows that the administration does not actually care much about its only openly declared goal: building a theme park. Instead, it only considers the interests of the investment by prioritising profit.

The theme park, as a postmodern invention, tries to establish a spatial simulation of historical or fictional environments and does this by thematising and juxtaposing spaces that can never be found together. Almost turning the modern invention of the museum on its head, the theme park does not display history or art; it imitates it. These themes, based on historical fact or fiction, exist not to be viewed, as in an art gallery or natural history museum, but to immerse the visitors. The purpose of the simulation is to bring the experience of this unreal collage to life. To operate this simulation, many infrastructural and legal regulations that do not belong to spatial themes and may even contradict them are required. Many structural and legal requirements, such as seat belts, security cameras, fire exits, guardhouses and ventilation units, accompany the infiltration of this unreality into daily life. In this way, the theme park ensures that the simulation experience can be transferred into the urban reality without risk. The more unreal the spatial simulation, the more intriguing it is. The promise of this simulation is entertainment.

The promotional material for Ankapark by the governmental news agency provides us with a sufficient picture to convey the infrastructural requirements we mentioned and the intended unreal spatial collage:

There are many entertainment units, such as 14 roller coasters with the most twists in the world, Turkey's tallest boat tower, 'Wind Riders,' a 75-meter giant tower, 'Abyss to the Underworld', the 'Digital Dark Ride' and 'Earthquake' designed in Turkey, a lava adventure, an autorobot, Turkey's largest boat tower, Turkey's largest multi-dimensional cinema, an ice cave, a laser arena, a 207-meter-wide music and illuminated water dance. The park, which contains architectural examples of world cultural heritage from the Stone Age to the Seljuks, from the Ottoman Empire to the age of technology, will take its visitors on a journey to the past.³⁷

Before its highly promoted and rushed opening, photos of the mayor stranded on one of the roller coasters surfaced.

Evidently, the park failed to provide a safe environment for visitors. Given the context of the Ankapark, the failure of the roller coasters is not a simple error of electrical and mechanical technical objects, but also signals the exhaustion of their aesthetic capacity. In 'Orchestrated (Dis)orientation: Roller Coasters, Theme Parks, and Postmodernism', Michael DeAngelis discusses the role of the roller coaster in a theme park as strategically undulating between orienting and disorienting the visitor. From the outside, it is a marker of the park, with its towering structures in the cityscape. From inside the park, it is a device for relative positioning, since the surrounding simulation aims to scramble the sense of place. The rate of undulation between orientation and disorientation is the most dramatic when aboard a roller coaster. While the sharp movements of the carrier heighten the disorientation, being able to see the theme park from above allows new reference points and opportunities for orientation within the grounds. With this in mind, the roller coaster's failure is not only an error confined to the absolute inputs and outputs of technical objects, but something that fails to deliver its aesthetic promise, as defined by DeAngelis. It does not operate as an ensemble, therefore no new sensibilities are brought forth into the world.³⁸ [Fig. 1]

Gilbert Simondon differentiates between aesthetic and technical objects in terms of their place in the world, while recognising the fluid boundary between them. While 'aesthetic objects complete the world' with what they bring forth, technical objects do not integrate with the world, as they can function anywhere. For Simondon, talking about the beauty of technical objects requires an understanding of their placement in contexts. 'The sails of a ship are not beautiful when they are at rest, but when the wind billows and inclines the entire mast, carrying the ship on the sea, it is the sail in the wind and on the sea that is beautiful.'³⁹ Ankapark's dysfunctional roller coasters cannot have a claim to beauty. What about the whole theme park, as an ensemble composed of many technical and aesthetic processes and objects including not only roller coasters but also security lanes, lightbulbs, game machines, but also the more abstract, environmental, institutional and psychological realms?

One need not be an expert to expect failures in the aesthetic and cultural domains. As a city, Ankara is familiar with the notorious mayor's 'playful' approach to urbanism. 'Playful' here refers to the city mascots that appear on television programmes, each seeming to come from a different child's imagination, or the contextless, naive, and absurd statues and monuments that suddenly appear within the cityscape. The flying goalkeeper statue, Transformer knockoffs, random species of dinosaurs, and many more have been removed from the city's intersections and bridges after his term in office. These sculptures give

some clues about the kind of world that was imagined for Ankapark. In fact, some of the equipment and sculptures for the theme park had been bought long before the design phase of the project and were placed onto the city's many public junctions. The theme park was planned only after the mayor had selected and paid for the toys. From a critical perspective, architect and scholar Güven Arif Sargın calls Ankapark a 'teenage whim', referring to the unrealistic desires of the management.⁴⁰

Of course, describing these objects, which sometimes refer to geography and sometimes do not produce any meaning at all, as naive does not mean ignoring the corrupt processes that produce them. In fact, the reason for the inconsistency and madness of sculptures is the profit-oriented understanding of the processes that produce them. This absurdity had also surfaced in the mayor's vision of Ankapark. The themes that the park uses for its eclectic simulation demonstrate a multi-scale miscommunication with the outside that even conventional theme park motives cannot legitimise. The park is disconnected both from the city of Ankara, with its own eclectic culture and demographics, and from the global entertainment industry and international geography. The architectural reflection of this misunderstanding in Ankapark seems to have created many failures when compared to other theme parks in the world.

Ankapark's international image has a considerable role in its eventual failure. It is obvious that Ankapark is too big for Ankara with its population of 5.7 million. Unfortunately, the international role it has chosen for itself to ensure financial continuity is too optimistic. Ankapark has large competitors, like Disneyland, in the international market. Those competitors increase their visibility within the larger market of entertainment industry. However, in Ankapark copyright agreements, which could increase the international visibility by an integration of global capital, have been avoided. Intellectual properties such as Harry Potter, Star Wars, Super Mario, or Jurassic Park, which are owned by entertainment giants like Universal, Warner Brothers, Disney, and Nintendo become the main attractions of theme parks abroad, thus giving them an enormous advantage. All fictional themes in Ankapark are imitations of something; it's as if someone said, 'it should be similar to the things we have seen without violating any copyright.' While the theme parks supported by the global entertainment industry – through cartoons, magazines, licensed toys and various other products – can sustain their profitability in the long term, Ankapark has paradoxically not been interested in the state of its profits after the construction phase, to the extent that it hasn't set up a financial connection with the larger entertainment sector. Rather, the simulation relies on relationships between the heads of national media and Ankapark's bosses. In the end, the supposedly striking

eclectic combination of countless juxtaposed images does not even have the means to convey the promise of entertainment in global media.

A comparable failure surfaces in the imaginary relationship that the park establishes with Ankara and its history. Of course, it is too optimistic to expect a conservative administration to produce a multicultural representation of Ankara's history, but the park's Islamist selection from the city's history consists only of a reductionist Ottoman street.⁴¹ All the remaining themes have a universal and generic feeling that could belong to any global theme park. Apart from productions with a loose sense of narrative such as the 'World Tour Model' or 'Antique Car Models', there are entities such as the 'Ladybug Model' or the 'High Chair Model' that do not offer any narrative. [Fig. 2] Ankapark's curation seems to refer directly to the infamous mayor's period in office rather than to the history of Anatolia or Ankara. The playful 'sculptures' that previously emerged in the city, transforms it into the most comprehensive theme in Ankapark. Ankapark is not a proper simulation where different themes – robots, dinosaurs or janissaries – are brought together with their identities intact. Rather, it assimilates and distorts them, leading to affectual and material homogenisation. These sculptures 'look like a – very bad – copy of something' hijacking any affectual potential or possibility of immersion. They are made of fibreglass polymer, and are very similar to their predecessors, both aesthetically and technically. For years, Ankara has been finding the equivalent of the dinosaur image not in the city's Natural History Museum but in the plastic fantasy objects in the streets, crossings and boulevards.

Years ago, the people of Ankara could see live animals in the Atatürk Forest Farm grounds; now there are plastic dinosaurs in the same place. Ankapark's impact on the cultural and aesthetic world of Ankara includes the erasure of the memory of the early republic. The Atatürk Forest Farm, which tried to establish an urban culture and identity by providing a productive and green land with both agricultural and recreational programmes, is slowly losing its place in urban memory to Ankapark, where different historical and fictional identities are intertwined to increase consumption and profit. Neither the local nature, including the Ankara Stream, which passes through the park land, nor the cultural world that once existed here, seem to have played a role in the planning and design decisions.

As a result, the park remains a dysfunctional pile of concrete, plastic, and metal. [Fig. 3] How the land, infrastructure and superstructure will be evaluated in the future remains unclear. Since the park is permanently closed after its brief open period, we will never be able to see the inside of giant tents or amusements that manage to be both experimental and ordinary at the same time, such as the 'Super

Jumper Model', 'Disco Rail Model', 'Flying Ship Model', and 'Space Travel Model.' Maybe we are lucky that we cannot get too involved in the eclectic simulation created by Ankapark, but the urban relations that the failures of the park make visible are still not resolved. On the one hand, we are hopeful that the eclectic collage in Ankapark of the ideology that equates public interest with profit exposes the destructive nature of investments in the city. On the other hand, the people of Ankara cannot do anything about the park and are confused about the status of an investment that has dominated their relationship with the city, both financially and imaginatively.

The crux of the architectural stupidity materialises here. Ankapark turns into a failure that resists even its own destruction. Rather than an error that turns and reinforms the knowledge mechanisms, institutions, disciplines and individuals that would sustain technicity, Ankapark, lacking the capacity to evolve, exhausts technicities. It is an obstacle to any kind of progress. For many bureaucratic, legal and technical reasons, park is unable to operate, nor can it be properly dismantled. It does not produce technical-aesthetic couplings with the world with safe roller coasters or immersive environments. Moreover, it stays indifferent to human motives. Everything stays there to decay, waiting for the new municipality and courts to uncover the depths of corruption in every sense. It turned into a cancerous tissue that only spread the decay and rust within the once fertile Atatürk Forest Farm grounds and the river. [Fig. 4] The project is not an error of the city of Ankara, its institutions, architects, technicians, bureaucrats, or investors; it is madness and pure stupidity, having lost its productive potential – whether financial, cultural, or political.

The diagnosis or: how we learned to stop worrying and love the stupidity

What experts, architects, geographers and civil society preached during the days of construction has been confirmed. But that does not provide relief, as bitterness about what has been lost has surpassed the anger towards the mayor. In this sense, the last component of the stupidity of architecture comes to the fore. The madness that the society contemplates, as well as the complexity of the corruption at hand, escapes from the institutionalised knowledge systems owing to the exhaustion of technicities. Here, a relationship also exists between the park and Ankara, not only through the completed project, but also in terms of the productive labour that uses a variety of instruments whether concrete or abstract, incorporating many technicities at once. As one of the largest investments in Turkish history, Ankapark demanded different types and rates of labour from many parts of the city during its design and construction. The project, like most of the construction industry,



Fig. 1: One of the coasters in the park from a surrounding road, 2020. Photo: Elif Kalender.

Fig. 2: Unlicensed Transformer and the pavilion titled 'Future Station', 2020. Photo: Elif Kalender.

arises from the concealment of the labour exploited through subcontractors. It remains unclear how many workers, students, artists, architects and engineers worked on Ankapark. It is constantly associated with the only openly known author of the project, the mayor – so much so that even the name of the promised world-famous office that produced the concept designs was not visible to the public.⁴² The capitalist process, which fixes the identity of the author, alienates the employee and hides the labour behind a single figure, reaching a dead end here. As the author becomes embroiled in polemics, the park is questioned, and the more the problems in the park become visible, the more the author becomes involved.

A fine arts student who tries to earn pocket money by painting the bootleg Transformers in the park and the engineer who drew the structural details are happy that their names are not associated with the park. Everyone knows that nothing has been done according to the recommendations of experts. Consequently, what is there resists its own producers and cannot be grasped by individuals or disciplines. Technical information seems to have been used merely to hide mismanagement and corruption. Individuals are hesitant to reveal whether they worked in some way or another on the construction of the park. There remains very little to say besides 'we told you so'. In the end, the existence of the park is so absurd that nobody can stand it. Deleuze says that 'madness arises at the point at which the individual contemplates itself in this free ground – and, as a result, stupidity in stupidity and cruelty in cruelty – to the point that it can no longer stand itself.'⁴³ Even the authors of the park could not stand themselves; their social status literally collapsed in the ensuing corruption scandal. As soon as stupidity was acknowledged by the public, the promise of the land's gradual profit evaporated. Political power collapsed because of Ankapark's debt and poor image. In other words, power could not sustain its status after being exposed to its own stupidity. When the mayor got trapped on one of the roller coasters, the resulting image irreversibly sabotaged the simulation. The park's simple goal was exposed: not to build a convincing simulation but to make short-term profit.

The human, material and financial resources that are mobilised and exploited to create geography fails to deliver any of its promises on human, national or international scales. Ankapark resists itself, its goals, and its capacities as a theme park, as an aesthetic object, and as value to be repurposed in other technical objects owing to the transdisciplinary nature of the disaster. Which authority – legal, municipal, governmental, or technical – has anything to say? How long should we wait for something to become adapted to the city, whether by destruction or a logistical-architectural operation?

Despite efforts to salvage its prospects, Ankapark has languished in a state of limbo, its sprawling grounds standing as a sober testament to corruption, environmental neglect, misplaced ambitions and economic mismanagement. The new municipality has released a series of documents to inform the public and has distributed forms to invite proposals from citizens. However, they cannot go beyond showing how the whole process continues to spiral into ever deeper debt.⁴⁴ A lack of knowledge has led to the creation of things that are not technical objects, as they 'cannot be considered as absolute realities and as existing by themselves, even after having been constructed. Their technicity can be understood only through the integration of the activity of a human user or the functioning of a technical ensemble'.⁴⁵ Nor is Ankapark an aesthetic object, as it does not complete the world it is placed in; it only erodes it. Giant steel silos, which are tectonically intricate and probably exciting in their unfurnished form for an architect, wait for an apocalypse. Until then, they will house the decaying army of dinosaurs and robots. [Fig. 5]

The difference between stupidity and the errors of failed architecture, as discussed in the Pruitt-Igde and Algiers experiments, is the evident reticularity of errors. They continue to be a part of cultural evolution and institutionalised knowledge even in the case of destruction or radical misuse. Neither of them, as partial deficiencies, spoil the mode of relations between the city and the land. Instead, they work as singular points that signify the disruption and start a revision mechanism. Ankapark, or architectural stupidity, is not an error that can be contemplated by order and cause it to reconfigure itself accordingly. It alienates labour groups, architects, engineers, technicians, painters, everyone exploited, as well as institutions, the new municipality, academia and professionals.

Even though we argue that the stupidity is genuinely incapable of reinforcing the knowledge systems that produced it, paradoxically the condition in Ankapark informs us about the stupidity. All in all, this article is an attempt to distinguish stupid architecture from an error. However, we must also acknowledge the transdisciplinary nature of the disaster, whose stupidity cannot be fully deciphered only within architecture. The profit-driven processes of Ankapark are integral parts of neoliberal urbanisation, which invites corporate and private actors to exploit public, productive and ecologically prolific land, where public, professional, and expert opinion may be less valuable than a shareholder's.

For this reason, the scale of the stupid radically differs from an error. Stupidity cannot be confined within the disciplinary borders of a profession. Unlike a partial error in workmanship or a planning decision that has the potential to re-inform the technicities, stupidity entrenches its own way



Fig. 3: Army of hatching dinosaurs, 2016. Photo: Caner Arikboğa.

Fig. 4: The river passing through the Forest Farm ground, 2020. Photo: Elif Kalender.

of operating and corrupts all productive relations in multiple orders. Distinguishing error from stupidity is a critical act, which should not be misinterpreted as negation. But rather it is an expression of the inability to affirm the cancerous urbanisations, with its institutions, policies and processes. As seen in Ankapark, the affirmation of stupidity means the dissolution of the system that affirms it. While an error indicates a potential going astray and reterritorialisation of a productive milieu, the exploration of desires or forms, stupidity diminishes the power of its environment and does not even empower itself in the process. Architecture should reclaim its critical edge as not every failure is an error; some of them are worse.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. In the 2020–21 autumn and spring semesters, Ayşen Savaş and an interdisciplinary group of researchers, Arzu Gönenç Sorguç, Funda Baş Bütüner, Emre Erkal, Sinan Cem Kızıl and Elif Bekar conducted a research-based design studio for the final year architecture students in Middle East Technical University, where students discussed and proposed the architectural and ecological transformation of the contested terrain.
2. The subtitle addressing the concept of error is based on a part of Bengisu Derebaşı's ongoing PhD thesis, supervised by Prof. Dr. Ayşen Savaş, which is expected to be completed by September 2025.
3. Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), 152.
4. Ibid, 148.
5. Michel Foucault, *The Archaeology of Knowledge*, trans. Sheridan Smith (London: Tavistock, 1972), 223.
6. 'Error (n.)', Online Etymology Dictionary, September 2017, <https://www.etymonline.com/word/error>.
7. Lester G. Crocker, *Diderot's Chaotic Order: Approach to Synthesis* (Princeton: Princeton University Press, 1974), 167.
8. David Bates, 'The Epistemology of Error in Late Enlightenment France,' *Eighteenth-Century Studies* 29, no. 3 (1996): 307–27, 307.
9. Theodor W. Adorno, *Negative Dialectics* (London: Routledge, 2015), xix. Adorno sets the goal of 'negative dialectics' to free dialectics from the predetermined intent of reaching to a definitive conclusion through affirmative solutions, advocating instead for an engagement with contradictions and tensions.
10. This claim forms a central argument in the book, suggesting that wonders and order are not binary opposites but may actually function together. Lorraine Daston and Katharine Park, *Wonders and the Order of Nature: 1150–1750* (New York: Zone Books, 2001). On page 291, Daston conveys a similar idea, referring to the ideas of Francis Bacon. Also, Daston's other writings include arguments on Bacon and his classification.
11. Lorraine Daston, *Biographies of Scientific Objects* (Chicago: Chicago University Press, 2002), 16. The full quotation from Bacon is:
As examples of singular instances, we have the sun and moon among the heavenly bodies; the magnet among minerals; quicksilver among metals; the elephant among quadrupeds; the venereal sensation among the different kinds of touch; the scent of sporting dogs among those of smell. The letter S, too, is considered by the grammarians as sui generis, from its easily uniting with double or triple consonants, which no other letter will. These instances are of great value, because they excite and keep inquiry alive, and correct an understanding depraved by habit and the common course of things. In the eighth rank of prerogative instances, we will place deviating instances, such as the errors of nature, or strange and monstrous objects, in which nature deviates and turns from her ordinary course of things.
12. Ibid., 239.
13. Theodor W. Adorno and Max Horkheimer, *Dialectic of Enlightenment*, trans. Edmund Jephcott (London: Verso Books, 2016), 7.
14. Peter Galison, 'Objectivity: The Limits of Scientific Sight', *AMIAS Lecture*, 11 November 2011, <https://www.ias.edu/video/galison-amias>.
15. Ibid.
16. Ibid.
17. The use of the term *accidenti* brings forward the difference between accident and mistake. J. L. Austin, the philosopher of language, dwells on the difference between 'by accident' and 'by mistake' in his 'Plea for Excuses'. This discussion can be further developed in relation to the use of error, accident and mistake in architectural treatises.
18. Sebastiano Serlio, *Sebastiano Serlio on Architecture*, trans. with an introduction and commentary by Vaughan Hart and Peter Hicks (New Haven: Yale University Press, 1996), xxxii.
19. Claude Perrault and Pérez-Gómez Alberto, *Ordonnance for the Five Kinds of Columns After the Method of the Ancients* (Santa Monica: Getty Center for the History of Art and the Humanities, 1993), 16.
20. Gallaccini lived between 1564 and 1641 and worked as a professor of mathematics and logic at the University of Siena. In her book *The Telescope and the Compass: Teofilo Gallaccini and the Dialogue Between Architecture and Science in the Age*



Fig. 5: Adult dinosaurs awaiting their demise, 2016. Photo: Caner Arıkboğa.

- of *Galileo*, Alina Payne critically compiles the information from the biographers of Gallaccini and defines his subjects of interest as poetry, epigraphy, ballistics, anatomy, astronomy, fortification and art. Alina Payne, *The Telescope and the Compass: Teofilo Gallaccini and the Dialogue between Architecture and Science in the Age of Galileo* (Florence: Olschki, 2012).
21. Ibid.
 22. Deleuze, *Difference and Repetition*, 150.
 23. Sean Keller, 'Ways about Error,' *Perspecta: The Yale Architectural Journal* 46 (2013): 29–43, 39.
 24. Ibid.
 25. Aslı Serbest and Mona Mahall, 'Theory of the Impossibility of a Theory of Error,' *Perspecta: The Yale Architectural Journal* 46 (2013): 340–53, 343.
 26. Daniel Sherer, 'Error or Invention? Critical Receptions of Michelangelo's Architecture from Pirro Ligorio to Teofilo Gallaccini,' *Perspecta* 46 (2013): 76–113.
 27. Peter Eisenman, *Tracing Eisenman: Peter Eisenman Complete Works*, ed. Cynthia Davidson (London: Thames & Hudson, 2006), 82.
 28. Stavros Kousoulas, *Architectural Technicities: A Foray into Larval Space* (London: Routledge, 2024), 59.
 29. Ibid, 44.
 30. Deleuze, *Difference and Repetition*, 52.
 31. Katharine G. Bristol, 'The Pruitt-Igoue Myth', *Journal of Architectural Education* 44, no. 3 (1991): 163–71.
 32. Zeynep Çelik, 'Gendered Spaces in Colonial Algiers,' in *The Sex of Architecture*, ed. Diana Agrest, Patricia Conway and Leslie Kanes Weisman (New York: Harry N. Abrams, 1996), 127–40, 138.
 33. Ibid.
 34. Selin Çavdar Sert, 'Atatürk Forest Farm as a Heritage Asset within the Context of Turkish Planning Experience 1937–2017' (Ph.D. Thesis, Middle East Technical University, 2017), 4, <https://open.metu.edu.tr/handle/11511/26502>.
 35. The aftermath of the theme park is documented in detail in the current municipality's report. Apart from the exorbitant cost of the toys and the technical equipment and infrastructure to run them, the theme park was awarded a 1 million Turkish Lira (approximately €15 000 in 2019) penalty because it failed to open on the scheduled date. From here on, the theme park became an economic burden [to the city]. After a long and difficult bidding process for running the park, the executive firm did not pay the equivalent of the 26 million Turkish Lira (around 3.7 million euro in April 2020). Numerous lawsuits have been brought by both the municipality and the executive firm, and as a small indication of the failure, by 2020, the executive firm had submitted sixteen petitions to close the park to visitors because of the technical deficiency, or using this as an excuse. The document, assessing the damage at 111 million Turkish lira (approximately 11 million euro in October 2020), notes that this assessment is limited because electricity, water and natural gas facilities are not available due to the unsettled debt. Also, during the time that park's status was unknown, cables and equipment were stolen from the park. Over eighty-seven robberies were reported before proper security was deployed. According to a 2022 report, the cost to restore this piece of land to a productive state is 250 million Turkish lira (15 million euro) just for the electricity infrastructure to be replaced. On the municipality's webpage there is a section dedicated to the current state of Ankapark, the title of which can be translated as 'waste page'. For the municipality's report, see: 'İsraf Sayfası', Ankara Metropolitan Municipality, <https://www.ankara.bel.tr/israf-sayfas>.
 36. Emre Sevim, 'Götürüsü Yüksek Bir Proje: Ankapark.' *Mimarlık* 407 (2019), 12–15, 15. Sevim states that the privatisation of the Forest Farm land is realised at approximately a third of the project cost. Also, by referring to the earlier use of the land as the hobby gardens within the city, reserved for the use of inhabitants for rent, he highlights the fact that even in the case in which hobby gardens are present and no investment has been made – meaning the Ankapark project – the rental value of the land was higher. The rental value of hobby gardens was 14.20 Turkish lira per square metre per year, whereas the executive firm pays 12.10 Turkish lira per square metre.
 37. 'Wonderland Eurasia İçin Giriş Ücretleri Belirlendi,' Anadolu Ajansı, 18 March 2019, <https://www.aa.com.tr/tr/turkiye/wonderland-eurasia-icin-giris-ucretleri-belirlendi/1421461>.
 38. Michael DeAngelis, 'Orchestrated (Dis)Orientation: Roller Coasters, Theme Parks, and Postmodernism.' *Cultural Critique*, no. 37 (1997): 107–29.
 39. Gilbert Simondon, *On the Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis, MN: Univocal, 2017), 196.
 40. 'Savcılık, Gökçek Döneminde İnşa Edilen Ankapark İçin Harekete Geçti,' *Euronews*, 27 August 2021, <https://tr.euronews.com/2021/08/27/savc-l-k-gokcek-in-ankapark-icin-harekete-gecti-muhafifler-gokcek-in-tazminat-odemesini-is>.
 41. Bülent Batuman provides an extensive account of Islamist architecture and urbanism that guides the transformation of Turkish cities. See: Bülent Batuman, *New Islamist Architecture and Urbanism: Negotiating Nation and Islam through Built Environment in Turkey* (London: Routledge, 2018).
 42. Concept visuals are still present on the Spanish-based international company Immersive Planet's online portfolio under the name 'Wonderland Eurasia', <https://www.immersiveplanet.com/portfolio/>.
 43. Deleuze, *Difference and Repetition*, 152.
 44. 'İsraf Sayfası,' Ankara Metropolitan Municipality, <https://www.ankara.bel.tr/israf-sayfas>.
 45. Gilbert Simondon, *On the Mode of Existence of Technical Objects*, 245.

Biography

Bengisu Derebaşı received her bachelor's degree in architecture from Middle East Technical University (METU) and pursued the master's programme in architecture there. During her master's study, she worked as a full-time research assistant in the project granted by the Getty: Keeping It Modern initiative. Her master's thesis dwells on libraries as the mediator between architecture and knowledge; the wall as an architectural element is re-read in relation to the practices of a library: classifying, storing and retrieval. Currently, she is a PhD candidate in the Programme of Architecture, and at the same time, works as a research assistant at METU. Her current research is on order and error in architectural thinking.

Sinan Cem Kızıl, PhD, is an architect and a scholar. He completed his architectural education at METU Faculty of Architecture, Ankara. His dissertation, 'Architecture as Territory: Politico-Aesthetic Constructions and Representations of Space-Time', discusses territory and territoriality, focusing on the political and aesthetic dimensions concerning philosophy and social geography.

Overcoming Disciplinary Stupidity: Collective Creation for Diversity and Inclusion in Public Space Design

Mar Muñoz Aparici and Maurice Hartevelde

Delft University of Technology, the Netherlands

Corresponding Author Mail

m.munozaparici@tudelft.nl

ORCID

Mar Muñoz Aparici <https://orcid.org/0000-0002-8017-0733>

Maurice Hartevelde <https://orcid.org/0000-0001-7164-6165>

How to Cite

Mar Muñoz Aparici and Maurice Hartevelde, 'Overcoming Disciplinary Stupidity: Collective Creation for Diversity and Inclusion in Public Space Design', *Footprint* 36 (2025): 49–60, <https://doi.org/10.59490/footprint.19.1.7490>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

This article explores the challenge of designing public spaces in hyperdiverse cities and argues that including knowledge often considered 'stupid' is key towards inclusive design approaches. It discusses recent shifts towards co-creation, co-design and placemaking by highlighting the importance of engaging with collective stupidity beyond presumed disciplinary intelligence. The integration of stupid or unconventional ideas in collective creation processes could help better problematise design challenges in public spaces and better engage with diverse perspectives to address diversity effectively. First, we will sketch the main societal pushes and academic turns supporting the enhancement of stupidity through the collective creation of public space for contemporary inclusive and hyperdiverse cities. Then, drawing on a comparative literature study of key authors introducing paradigmatic shifts for today's theoretical framing and understanding of collective creation, diversity and design

ethics in public space, we propose a non-conclusive series of design capacities for public space designers. These designer capacities are situated in contextual and sociocultural awareness, sensitivity to socio-spatial relations and narrative inquiry, and designing with the tacit, hence with empathy and responsibility. Finally, we highlight the relation between stupidity and failure in urban design and present relevant success practices. However complimentary to traditional design capacities, we conclude that these ethico-aesthetic approaches might challenge traditional notions of intelligence, beauty or authorship in design in favour of diversity and inclusivity.

Keywords

Public space, urban design, diversity, stupidity, co-creation, co-design

The challenge of designing public spaces in hyperdiverse cities

Over the last decades, there has been an increasing interest within urban design in getting closer to citizens through civic engagement practices. Building on a longer trajectory of participation, particularly co-design and placemaking have drawn the attention of design research and practice in an attempt to create better living environments together with citizens.¹ These design approaches align with late-modern academic calls to end current urban planning practices. The aim is to recreate the concept of the 'city' as a collective resource or, as Patsy Healey puts it, 'to build governance capacity around shared debates on the multiple qualities of "place" and the diverse ways these are experienced'.² Attempts to avoid physical determinism lurk in the high-modern concepts of 'city' and 'planning', which together with the shift towards the idea of creating 'our city' by building 'shared contexts' favourably contribute to redefining the practice of design.³

As the definitions around public space design are continuously contested, revisited and interpreted by researchers and practitioners seeking to revise and recreate collective spaces, so the conception of design itself is also scrutinised.⁴ Despite differences in approaches, these attempts share a common goal: to productively gather insights from individuals as well as recognised authorities into public space design processes.

In a democratic belief and value system, any issue concerning the public should be discussed by the public as a collective, especially when considering possible future changes.⁵ From this angle, the gathering of collective intelligence insights is essential to informing co-design and placemaking.⁶ Collective intelligence in design also responds to the contemporary idea of decentralised and collaborative decision-making processes involving diverse perspectives and expertise.⁷ Therefore, the current question – key in this article – is not whether urban designers can contribute to the co-design of public space and placemaking processes, but in what capacity they can harvest collective intelligence to increase citizen inclusion and improve design outcomes for specific public spaces in specific neighbourhoods. It is essential for urban designers to prioritise this issue, as they bear the ethical responsibility of transforming cities into collective resources.

The question of designing for citizen inclusion has become increasingly important to local urban societies around the globe over the past decades.⁸ This has been articulated, for instance, in the launch of UN-Habitat's Global Public Space Programme in 2012, and the now well-known definition of Sustainable Development Goal number 11, 'Sustainable Cities and Communities', adopted by the United Nations in 2015. The target to provide universal access to inclusive public spaces by 2030 is a pressing force for change among design professionals around the globe.⁹ Particularly, the practice of inclusively co-creating public spaces has become urgent when considering the diversity of local people and their rights to the city.¹⁰ Since public spaces are per se and per definition shared, where people in situated contexts collectively negotiate their values, designers' approaches toward public spaces must be especially sensitive to such diversity.¹¹ Urban designers have considered diverse human associations in cities – public life – as being cities' nature for nearly a century. However, as urbanisation continues, designing for modern life, with its diverse populations, has also become increasingly complex.¹² It is largely since the 1990s that urban populations underwent significant change, leading to a state of 'hyperdiversity (or hyperplurality) that is beyond anyone's ability to understand adequately'.¹³ Today, this

diversity or hyperdiversity is defined as an unprecedented intense diversification of the population in socio-economic, social, cultural and ethnic terms, while also concerning lifestyles, behaviour and human activities. An increasing number of people do not belong to a single identity.¹⁴ Public space designers are challenged to respect the continuously emerging complex relations in cities. Accordingly, hyperdiversity entails a great challenge and opportunity for public space design. Yet, this is not an easy task, since designers are faced with a complex interplay of cultural dynamics, including both tangible and virtual elements, at the intersection of local and global spheres defining these hyperdiverse communities. To effectively incorporate hyperdiversity into their designs, urban designers could start by understanding the current multiplicity of overlapping collectives through collecting community insights. Including collective creation approaches in design processes appears as a way to consider diversity as a productive difference.¹⁵ Consequently, there is a shift in the sensitivity of an urban designer: turning towards a multiplicity of societal dimensions to produce more inclusive urban environments.

The plea to include collective approaches to re-create the 'city' as a collective resource parallels a particular Anglo-Saxon academic debate on urban planning. From one angle, Healey's voice resonates with Christine Boyer's fundamental critique on planning, which is always trying to escape from the meanness of the city's chaos, yet always generating veiled promises of technical utilitarianism. While diversity should be the designer's framework, current participative processes are limiting the scope, because they usually only involve limited key citizens and technical experts disconnected from the local community and culture. Such an approach does not serve all social groups and therefore does not represent its urban diversity. Thus, from another angle, Healey builds upon Dolores Hayden's understanding of cities as locales that collect people's 'my places'. Cities are assemblages of places where people hold memories. By eliminating the technocratic approach to planning, the design of public spaces can portray communities and shared memories, framing their ideas about their present and future.¹⁶ In this manner, without intending to oversimplify Hayden's work, she calls for an engagement with diversity and for collaborative approaches in which experts coordinate without formalising procedures, like Boyer envisioned. Both approaches aim to optimise collective resources for participatory, democratic governance.¹⁷ In both, the emphasis on diverse values and perspectives affects entire organisational structures and challenges expert authority.¹⁸ Yet, instead of reducing

diversity to pre-organised public involvement, active engagement opportunities, and specific consultations or activities, the scientific challenge in urban design now revolves around expert judgment and knowledge, insight and skills within a diverse world.¹⁹

The shift in urban designers' sensitivity demands that they combine social factors with the usual variety of technological factors presupposed in urban design practice. The sensitivity shift complements the capacities that designers currently learn, centred on technical and expert knowledge, focused solely on scientific factors. With the increase of technological tools, especially making use of human-centric urban big data, as promised by smart cities and AI urban design, some believe that technology might be the answer to the explicit aspiration for inclusive design.²⁰ Enlarging the capacities of designers to engage with diversity and include others and otherness is not a mere technological action. It seems unlikely that digital policy and computer applications suddenly make urban designers engage better with citizens to understand and respond to diversity. What could make the difference is how they use digital tools together with their capacities. In the development of this article, the question explicitly emerging is what capacities designers should possess to combine – and sometimes even overrule – their disciplinary theorems with the situated non-expert knowledge of hyperdiverse communities.

Designers are never value-free agents, nor do they start designing tabula rasa, since from the start of their education, they develop normative preferences.²¹ More often than not, designers have different ideas and values than the people for whom they design. In philosophy, the quality of being different defines the key to designing for diversity. As Gilles Deleuze put it in 1968, difference is productive, generative, and allows a sense of becoming, of fluid development that allows for change.²² This immanence was embedded in a broader French school of thought at the time, advocating for a general shift towards radical, open democracy in both academia and society.²³ The notion of diversity within democracies began to fuel the discourse on the right to the city or *droit à la ville* as pronounced by Henri Lefebvre at the time, and it questioned the role of designers in democratic societies.²⁴ The notion of diversity also generated a notable search for richer relationships in cities, other than the sovereign relation between the people and public authorities and those relations traditionally empowered in urban life. With provocative concepts like *société autogestionnaire* or self-organising society as articulated by Jeannette Laot, experts, institutions and government were challenged to open up to other forms of living together, among others within the community.²⁵

Such pioneering yet episodic understanding of what is or should be a city seeded contemporary calls for universal access to inclusive public spaces as well as questions about designers' capacities to produce those. Inclusive public space is therefore not only a consequence of design, but should extend to designers themselves, their approaches and tools. Designing for diversity is a rhizomatic approach that is always in flux, never fixed, and it generates a multiplicity of possibilities and potentialities.

Everything in the rhizomatic realm of multiplicitous urban realities is interrelated. Since diversity is nourished by the principles of connection, heterogeneity, and continual (re)emergence, diversity itself can be understood as an in-between or unfinished estate.²⁶ Thus, design for diversity must acknowledge its unfinished nature and allow for novel connections to appear through open-ended processes. Conventional urban design approaches based on hierarchical disciplinary structures block such rhizomatic development through authority and therefore create multiple mismatches with the viewpoints of the local people. These mismatches derive from ideas that the hierarchy considers 'senseless' and thus refers to as 'stupid' ideas. Even with good intent, designing public spaces by applying textbook solutions covers situated multiplicity and therefore blocks the representation of local diversity in design. We call for incorporating in design the knowledge of the presumed 'idiots', private citizens, or laypeople – those with no professional design knowledge – to overcome experts' stupidity in answering today's main challenges in urban design. In designing for diversity, the idiot may be a commoner, a citizen without specific training or technical understanding of public space, or an amateur with an interest in urban matters. The knowledge of experts and idiots together can become a non-hierarchical, transdisciplinary assemblage of ideas that enhances productive difference to respond to hyperdiverse urban environments. Broadening the search for collective intelligence to usually unheard voices and applying that knowledge in design could improve design processes and outcomes to better represent the multiplicity of and diversity within cities.

A comparative literature study of key authors introducing paradigmatic shifts for today's theoretical framing and understanding of collective creation, diversity and design ethics in public space elucidates how stupidity could benefit public space design for inclusion and diversity. We therefore conducted forensic examinations of the works introducing paradigmatic shifts, searching for indications of distinctive ideas and novel concepts as well as connections and influences among the writings of those authors. Special attention is given to the

widespread concepts of participation, co-creation, co-design and placemaking.

Collective creation as collective problematisation

The concepts of participation, co-creation, co-design and placemaking are mentioned in the same breath when talking about including citizens in urban design processes. While all these terms refer to approaches of collective engagement, it remains particularly important to differentiate between them. The notion of citizen participation refers to any level of involvement in a collective process. Sherry Arnstein's ladder of participation from 1969 establishes the levels of involvement in governance ranging from manipulation to citizen control.²⁷ In citizen-control situations, local people can govern from within the institution or defined hierarchy. Yet, important roadblocks towards inclusivity like racism, paternalism, power-holder resistance, and the ignorance and disorganisation of many low-income communities do not disappear.²⁸ Beyond participation levels, co-creation and co-design are notions that speak about collective creative processes, which – as argued below – are non-hierarchical in definition and institution. The difference between the notions is that co-creation is any act of collective creation, and co-design implies a continued collective effort between professional designers and those who are non-trained designers.²⁹ Branching off participation, co-design emerged through what Alvin Toffler called 'a destiny to create'.³⁰ Since the Co-Design Society was formalised in 1979, co-design has become a manifest approach to engage citizens alternatively.³¹ Co-design aims to design the future together, incorporating the needs of local people early in design processes to address variations in interpretations and the diversity of human value systems.³² More recently, the notion of placemaking emerged out of a non-governmental pro-active expert initiative, Project for Public Spaces, which aimed at 'the enhancement of the community's image, both literally and figuratively'.³³ Design has been one of the essential elements of placemaking promotion, next to building leadership and working together, in terms of selling a public space as an existing place, and de-structuring economics.³⁴ Placemaking is 'a process that produces a new (or renewed) sense of place by connecting space with the communities that inhabit it'.³⁵ It happens, therefore, not necessarily through co-design, co-creation or participation, although often through collective action.

All these approaches to collective engagement in public space – co-creation, co-design and placemaking – help to problematise the existing situated knowledge and create a public collective. This kind of problematisation in design, following Deleuze again, involves the identification and exploration of problems without prescribing specific

solutions.³⁶ Accordingly, problems are never fixed entities, but rather dynamic constructs that trigger thought and understanding in people, and problems give rise to multiplicity, as well as resulting from this, especially in hyper-diverse environments. As problems are productive and generative as well as manifold, problematisation becomes both the means and the ends of design, allowing for a creative engagement with physical, ethical and socio-spatial constraints and considerations. Problematisation thus becomes designing itself, by critically engaging with the limits shaping disciplinary theory and practice in an ethical act that enables a deeper exploration of complex societal issues.³⁷ Collective problematisation does not necessarily imply that design results are deemed 'intelligent', especially from disciplinary perspectives. Rather, using collective knowledge in public space design leads to a better understanding of the urban complexity present in hyperdiverse cities, which could eventually lead to design outcomes that interact better with local people and their realities.

Collective creation or co-creation seems to play a crucial role in problematising and conceptualising urban issues through empowering collective intelligence. Whereas designs as artefacts commonly have a well-defined design process, collective design processes follow changing steps, since they adapt to the citizens' intentions and input. Co-creation acknowledges that design's meaning and significance are added by society and relate to social or cultural differences. Yet, instead of searching for objectivity, collective creation also engages with subjectivity. Collective approaches in city-making presume an understanding in semiotic expression, language and meaning within cultures, as much as abilities to acquire community knowledge and capacities to learn and apply new context-situated techniques. Collectively proving and developing these relations, abilities and capacities builds the designer's so-called *intelligence sociale* or social intelligence, as Bruno Latour pointed out in 1994.³⁸

Critiquing design outcomes that claim intelligence, it is the actual capacities of the mind that hold the greatest importance in design processes. Pierre Levy's notion of 'collective' intelligence came to the fore against the backdrop of the emerging internet as a more accurate term to embrace the existence of origin and authorship pluralities at the time. As digital information networks and interactive multimedia heralded change in the forms of communication and multiplied access to knowledge, people's identities and social bonds quickly flourished.³⁹ This awareness started a quest for a new device in our 'collective intellectual life', as Latour would later call it, to support the search for matters of concern, as opposed to matters of fact. Today, still unfinished, this approach allows experts

to engage 'with more, not with less, with multiplication, not subtraction', while it departs from narrow-minded disciplinary disapproval of 'blind idiots' not aware of social domination, or say, race, class, and gender within the discipline itself.⁴⁰ Instead of designing alternatives or options that focus on the elaboration and emanation from 'factual' contextual analyses of experts, design and creation should focus on the process of establishing collectives around matters of concern: common issues, interests and worries. Generally, design still revolves around matters of fact that are objective, scientifically established truths as opposed to collective intelligence, which focuses on matters of concern and is considered subjective input connected to stupidity and irrationality.

Still, as John Dewey already said in 1927, a single unified collective does not exist. There are only contrasting unions of distributive constituents and distributions of and within collectives.⁴¹ The urban designer's role in creating inclusive public space requires a deeper understanding of the discrepancies between absolute truth and opinions subject to intermediaries and criticism. Dewey has been key to the further development of Latour's thought about a new, highly specialised kind of representation to accommodate greater diversity.⁴² The discrepancies between truth and opinions and the difficulty of conceptualising a single collective should make urban designers aware that people in situated contexts relate to problems diversely and therefore to problematisation as well. As Jane Bennett states, 'problems give rise to publics' because people can affect and be affected by them.⁴³ Since designers are people too, they become part of the public and therefore part of the problem. Designers engaging with the collective can then affect the problem while also inevitably affecting themselves. Because they design for a shared problem, they cannot do problematisation from their desk. In co-creation processes, all actors sit around the same collective table dismantling hierarchical structures where viewpoints are equally validated, not equalised. The point of collective problematisation is not to agree but to agree to disagree. That is how a public appears. These processes can entail, for example, collectively sharing meaningful memories and experiences, collecting ideas or gathering visual references. Co-creation feeds the collective imagination of what people desire the city to be in a fair attempt to rethink intercultural cities.⁴⁴

Nevertheless, co-creation has got some critique for also being a ruthless, even unscrupulous act of saving public expenditure by out-sourcing public services to well-meaning citizens.⁴⁵ This has become evident ever since the notion came into vogue in the 1980s.⁴⁶ Opponents hold that co-creation could dismiss urban designers from their jobs, and exempt the government from its responsibilities,

thus leaving cities without the appropriate technical expertise to oversee both design and public administrative accountability. In this article, we see co-creation as an enlargement of the designer's responsibility towards citizens, communities, cultures and the city to collectively constitute both a public and a common ground.

Incorporating hyperdiversity in design through sources considered stupid defies urban designer's capacities. In an obsolete way of thinking, these capacities assemble around aesthetical, technological and administrative capacities. Designing inclusive public space demands diverse capacities, because to include diversity one must first acknowledge its existence and that one is part of it. For example, if a designer wants to include the perspective of children in the design, they must learn to interpret the tacit layers from a naive drawing of a house, street or playground. Such positioning asks for unusual ways of looking, to see something productive for design where there seems to be only absurdity. Designers of inclusive public spaces embracing 'idiots' and laypersons' viewpoints can help mediate between design expression and public space sociability. The multiple viewpoints and problems inherent to hyperdiversity are pushing urban designers not merely to open to all and everything in the city, but rather to design for diversity, through identifying provisional identities, mapping viewpoints, experiences, values and imaginations. Eventually, in the search for collective intelligence, designers will have to enter processes of subjectification, of rebuilding social relations at every level of the socius, and of accepting the open spectrum between natural and artefactual worlds. It's a major turn towards 'new collective modes of expression and challenging forms of sociability', as design theorist Hélène Frichot describes it.⁴⁷ Not only do such co-creative processes in public space maintain the designer's agency, they also endow them with the task to design aesthetically and ethically.⁴⁸ She combines Latour's relational approach with the ethico-aesthetic concept encompassing a sensitivity toward the mental, social and environmental ecologies in which designers act, as Félix Guattari presented it.⁴⁹

One way in which ethico-aesthetics have translated into urban design practice is through the notion of commoning or of common space. In this, public space is the common ground of collective negotiation; it is seen as the ultimate ground for the commons or commoning, since it appears as the clash between the private and the public, individual and collective interests.⁵⁰ The commons model challenges the dichotomy of public-private and makes space for citizens to engage in collective action through self-governance, empowerment and self-determination.⁵¹ Commoning in public spaces inevitably implies

collective problematisation. Defining the common goods and public values at stake is how a collective or ecology becomes a commoning actor and actant. Commoning sees 'urban enclaves not as closed, rigid spaces, but rather as thresholds of negotiation, ... that uncover the potential of constant transformation via the formulation of porous borders of inclusion.'⁵² Commoning is an act of collective problematisation turned by designers into an ethico-aesthetic practice. Over the last decades, different forms and degrees of commoning as a co-creation practice have appeared in urban design. More recently, placemaking has inherited the tradition of participatory practices, absorbed practices of commoning and made it into a global success.⁵³ However, the avid production of knowledge around these topics shows that there is still a big gap between theories closely related to participation, co-creation, co-design and placemaking and how to design for diversity in public space. As Gerhard Bruyns and Stavros Kousoulas put it, 'the question and theorisation of shared (collective and technological) capacities will remain part and parcel to the future of design thinking and doing.'⁵⁴ In what follows, we aim to expand designers' capacities for the broad range of collective approaches to designing inclusive public spaces.

On the designer's capacities to design for diverse public spaces

The shifts in urban design presented above – including the social and technological turns – come together in the co-design of inclusive public spaces that contribute to personal, social and human equality, by including all actors and actants. Co-designing inclusive public spaces challenges the traditional capacities of modern designers who focus on scientific knowledge and give preference to 'smart' and 'expert' ideas over 'stupid' and 'amateur' ones. For this reason, in this article, we make a plea for collective stupidity, not as the opposite to collective intelligence but as complementary to it. Smart or expert knowledge is usually related to technical capacities that may relate to specific disciplines. By contrast, the challenge of designing public space for diversity demands a set of capacities that surpasses such disciplinary divisions and touches upon intrinsic human capacities to engage with one another. Cities may be best understood as highly relational environments of interconnected actors and actants and, drawing on Foucault's work in this regard, habitats of material-discursive practices.⁵⁵ In our view, practices of co-creation, co-design and placemaking actually intend to favourably connect amateurs and experts with collective stupidity, and even idiocy.

Specific designer capacities – distinguishable from but connected to traditional designer capacities – can help to

(re)connect to the diversity of citizens, communities and cultures in a situated context. The inclusive design of public spaces starts with communication as the capacity to discuss and unfold dialogue in order to exchange values, ideas, perspectives and expertise, as well as discuss the physical-material attributes of a diversified public life. To navigate hyperdiversity, designers may rely on diversity studies that focus on socio-economic, social, cultural and ethnic differences to understand personal, social and human differences. Understanding diversity can help design for inclusion through equality regardless of gender, age, heritage, income, lifestyle, behaviour or activities.

Especially when public space is not created but re-created or re-purposed, before intervening, inclusive design approaches must understand and foster relations between human and non-human actors, as Bruno Latour would call them.⁵⁶ Designs, designers, the people for and with whom they design, and all design concepts and underlying values are interconnected actors or actants in dynamic networks. All these layers come together in Guattari's three ecologies: mental ecologies, social ecologies and environmental ecologies.⁵⁷ In the context of inclusive public space design, the mental ecology refers to the diversity of citizens, the social ecology to the diversity of communities, and the environmental ecology to cultural diversity. As Elizabeth Sanders, one of the pioneering advocates of co-design already said in the early days of the concept, the expert mindset of designers needs to change to an egalitarian mindset.⁵⁸ To make this change, urban designers need to be able to incorporate affects that are 'embodied and embedded, relational and affective', as Rosi Braidotti calls it; designers must enlarge their capacities, agencies, and technologies.⁵⁹ In her post-humanistic approach Braidotti sees the lines separating humans from non-human actors as less apparent, and thus calls for converging viewpoints beyond the human-centric: 'a "we-are-(all)-in-this-together-but-we-are-not-one-and-the-same" kind of subject'.⁶⁰ Looking for the common 'matters of concern' and including affects often considered irrelevant, personal, irrational, or bluntly stupid could support the design of public spaces that better contribute to our urban living environments.

Still, the actual practice of collectively creating inclusive public space is often hindered by the lack of concrete and explicit design approaches. Below, we explore some possible capacities that designers could incorporate to increase their agency, by expanding on Isabelle Doucet and Hélène Frichot's call for situated, relational and embodied perspectives.⁶¹ We argue that to contribute to more inclusive public spaces consequently, designers need to develop the capacities of situated and cultural awareness, sensitivity to individual and community experience, and designing with the tacit.

Primarily, designing for inclusive public spaces is situated in a specific context and time. Urban designers need to be aware of the situated context in which they work. Donna Haraway's notion of 'situatedness', key to Braidotti's reasoning too, enables understanding diversity without being bound to a fixed geographical location or position.⁶² It can be situational in societal sense too. A situationally relativistic attitude and thus a capacity to contextualise any social group or cultural practice as such helps urban designers to co-design inclusive public spaces. Maps, for example, may document people's movements across public spaces over time as citizens engage with physical surroundings, other individuals and groups, and other actants. Mapping is then a method that serves the understanding of dialogic actor-actant relations. In these ways, designers will recognise that urban design is not created in isolation. By employing a socioculturally situated lens, public space designers can merge insights from design, the social sciences and the humanities with technical parameters. Setha Low introduced such a merged and operational approach to public space design in the spatialised employment of ethnography. Also building upon the notion of situatedness, such embedded approaches merge spatial and social relations through which designers can prioritise a fluid concept of culture.⁶³ Equally, designers could contribute to the calls in the social sciences for an ethnographic practice more committed to social justice goals.⁶⁴

Second, designing for inclusive public space involves understanding the unique experiences of the socio-spatial relations in situated communities. In addition to the capacities mentioned above, designers must be affective as well, hence attuned to the needs of individuals and communities, as well as mindful of the social-spatial situation of neighbourhoods. Yet, because spatial experience is embedded and embodied, people 'cannot live other people's lives, and it is a piece of bad faith to try', as anthropologist Clifford Geertz already concluded in the 1980s. What designers can do is 'listen to what, in words, in images, in actions they say about their lives.'⁶⁵ Developing such conscious listening skills enhances the designer's capacity to understand the needs and perspectives of those for whom they design. Methods such as narrative inquiry, directed dialogues and storytelling can reveal valuable individual and collective experiences and views in public spaces within the cities. For Shelley Evenson, listening to individual and community stories in such experience research can reveal consistent patterns in people's collective knowledge to inform and validate co-design.⁶⁶ As a mnemonic device, storytelling approaches help to explore obstacles to the inclusion of certain communities and sum up diverse expectations

for the neighbourhood, which may help to envision alternative futures and design for it together. As Dolores Hayden underlines, these approaches do not only transform traditional roles but also advance interdisciplinary work.⁶⁷

Third, the latter capacity involves an essential human capacity which designers should aspire to cultivate, namely empathy. Designing for inclusive public space must involve all kinds of citizens. In line with Healey's premise that empathetic understanding is essential to re-create the city as a collective resource, urban designers must embrace the diversity in personal experiences and values.⁶⁸ The ability to take on another's perspective, to understand, feel and possibly share and respond to their experience is crucial in the co-creation of inclusive public space. Being empathetic to personal thoughts, emotions, bodily expressions and inner beliefs fosters a deeper understanding and connection to the stories, the people and the place. Inspired by Haraway's positioning, María Puig de la Bellacasa speculates on a broader ethics of care in its transformative, non-innocent, disruptive ways. Although not built on the notion of public space, but rather of 'soil', she underlines the use of 'care' to tackle the dominance of technoscientific future-oriented thinking by recognising (temporal) diversity at all levels.⁶⁹ Ecological care is a radical turn away from the anthropocentric perspectives that envision design as an object, thing, entity, relatum, or physical imprint of a design ideology. Instead, care ethics underpins the idea that design can only be inclusive through its performative metaphysics. This approach fosters a continuous flow of agency through design, allowing the human act of worlding through design to present itself in diverse ways to others. The process is ongoing and open-ended, constantly evolving into both stable and unstable forms.⁷⁰ Assuming that co-creation, co-design, and even placemaking are essentially acts of sympoiesis, where actors and actants are themselves also collectively being co-transformed by 'becoming-different-together'.⁷¹ Therefore, designing inclusive public space involves an ongoing reshaping of design dynamics where there is no one-size-fits-all approach. Instead, an inclusive approach demands that designers have the capacity to be flexible, adaptive and capable of anticipating and responding to evolving needs and continuous change.

Last, designers need to be able to turn the insights gathered in collective creation about the context, community and citizens into signs and significances. According to Low, community interactions in specific cultural contexts help embed global and local power relations into physical space. The situated and embodied spatial negotiation of these relations is what gives meaning to that

space. Design language and semiotics together with material and metaphorical expressions in design can transform a physical space into a place with meaning. If design is not developed with the community, disputes about furnishings, use and ambience could turn into an openly visible platform for expressing cultural conflict, community change and even citizen exclusion.⁷² In parallel, the perception of design has shifted from purely focusing on semiotics towards an interest in the tacit. There is a 'growing awareness that abilities and unstated habits and assumptions are equally formative for our intellectual understanding as the more formal, codified things we learn', as architecture theorist Lara Schrijver has observed.⁷³ Tacit knowledge, or the unspoken or implicit understanding, skills and assumptions that people possess but may not be able to articulate, explicitly remains the biggest challenge in the coding and decoding processes of design. If design is a process of coding and decoding that is self-referential, where signs and meanings are repeated within a specific networked group of designers until they are pronounced as truths, designing for diversity means not taking the usual as the norm.⁷⁴ Urban designers have to deeply explore the specific tacit embodiments in the situated environments where they intervene. Ultimately, design intends to create material arrangements.⁷⁵ Designing for diversity then consists of collectively decoding the context and community to eventually code it back into material arrangements holding relevant significance for all citizens. Yet, any material arrangement is temporal because society, and therefore its diversity, is dynamic by nature, and so is space. This extends Karen Barad's claim that embodiment is not a matter of 'being of specifically situated in the world, but rather being of the world in its dynamic specificity'.⁷⁶ As being able to translate the tacit may be the ultimate capacity in designing for inclusive public space, it assumes that the designer has understood the context, the community and the citizens, has gathered insights, and can recode them into material arrangements such as co-creation activities like workshops or spatial design interventions. Parting from the conventional basics of design practice and education that usually revolve around working with data, references and physical objectivity, working with tacit knowledge necessitates unique design tools tailored to each process. This entails a sense of design agency, or what Haraway calls response-ability.⁷⁷ From a designer's viewpoint, an ability to recognise interconnectedness, acknowledge ethical responsibilities, value diverse forms of knowledge, build coalitions, and take action to address pressing issues in our world defines the pathway to designing for diversity.

Success and failure: two sides of the ethico-aesthetic approach

With an eye on current practice, with or without these capacities, how can urban designers successfully distance their *modus operandi* from the focus on smart and successful solutions? Perhaps they can not. If designers embrace collective stupidity for more inclusive public space design, they will have to make their peace with failure too. Far from being an unfortunate result of design, failure is a critical component behind the proposed shift.⁷⁸ Through collective creation for diversity and inclusion, public space design emerges only through daring to fail and learn from other design failures. In this, every actor involved can learn from failures through reflection on problematisation and on alternative ways of operating. It could even be argued that the biggest failure for a collective creation process is to succeed without struggle, since that would hinder the impact of the collective transformation in material and immaterial terms. Success may be to failure what intelligence is to stupidity. If one were considered good and productive, the other one would be bad and useless. Introducing more stupidity in urban design would unavoidably include more (apparent) failure, more discomfort, more challenges. It is up to the designer's skills to make those consequences generative for co-creation and in co-design.

Although collective creation approaches for diversity are not yet generalised in urban design practice, there are examples of alternative design practices exploring these approaches and capacities across Europe. Far from staying within theory, Atelier d'Architecture Autogérée (AAA, Paris) designs with a participative approach which enhances diversity and inclusion. Their dedicated situated and multicultural approach unites with citizen science while they provide environmental education. This is seen in their R-Lab public space project in Paris as well as in the WikiLab project in Saint-Denis. Their approach revolves around participation and includes participatory mapping and the mapping of sharing practices as well as experimentation with methods of self-management and co-construction.⁷⁹ Similarly, Raumlabor (Berlin) designs through participation, with the aim to create mutuality among diverse groups and initiate common engagement with public spaces. They introduce embedded experiences into design. Participants in their design of the Mathildenhöhe public space in Darmstadt investigated chances to live and experience the appropriation of a space through varying levels of experience: inviting sixty participants to settle there for three weeks. Taking a slightly different turn in their design for Floating University in Berlin, they extend their targets to a more-than-human approach. Beyond being recognised by disciplinary

awards and being embraced by community and critics, the project led 'to that community being three times larger than it used to be'.⁸⁰ The work of Recetas Urbanas (Seville) displays familiar situated approaches to public space design, which provoke self-managed cities as well. They co-create temporary spaces with communities by incorporating their experiential knowledge and with an aim to unite those communities too. Although experiences had been developed over time and before the project started, Recetas Urbana's public space intervention in the Baldomer Solà school in Badalona near Barcelona may serve as an example. It anticipates in collective judgement of the neighbourhood and the communities' needs. The particular needs of each actor, including the designer, are made compatible with the needs of others, which implies an exercise in empathy and tolerance. In addition, by demonstrating positive attitudes towards their alternative approach, citizens make their projects visible and share experiences with other communities.⁸¹ These practices lead to different and often surprising ideas on the concrete spaces and helps to identify topics that affect people's environment. Still, it remains unclear whether such co-created practices will be absorbed by established 'success' practices or whether such approaches will become popular and eventually common practice.

Navigating diversity: recommendations for designing inclusive public spaces

Designing public spaces for inclusion in today's hyperdiverse urban environments demands a design approach that integrates ethical considerations, aesthetic sensibilities and collective intelligence, which often entails dealing with the apparent stupidity of non-experts or other disciplines. To address this challenge effectively, it is recommended that urban designers first acknowledge their own stupidity and prioritise collective intelligence in the design processes to overcome it. This involves actively engaging with diverse local actors – including experts as well as 'idiots' – to contribute to designing inclusive public spaces through a process of shared problematisation. To do so, designers need to enlarge their practices, and thus their capacities towards an ethico-aesthetic approach or relational practice with complementary capacities. We found these capacities to be situated and cultural awareness, sensitivity to individual and community experience, and designing with the tacit. By fostering collaborative efforts, discussion and dialogue, designers can create public spaces that better reflect the needs and values of the people they serve. The illustrative cases of situated practices that focus on collective creation to create inclusive public space show potential to change the modus operandi of urban design with community values

at heart. Such approaches show that incorporating diversity in design by embracing idiocy and failure in commoning practices can facilitate the designer's contribution to meaningful social interactions and foster a sense of ownership and stewardship among cultures, communities and citizens, eventually improving urban living environments.

However idyllic an inclusive approach based on relational design capacities seems, such practice deeply challenges two main points of design education and practice: authorship and beauty. Designing as another actant of ecologies without hierarchical power may take away design's self-imposed responsibility for socio-spatial beauty. When design focuses on process over product, on values over composition rules, the recognition of styles, schools and geniuses might become challenging. In the inclusivity turn, beauty and authorship have retreated in favour of collectivity and impact. Perhaps, in this new paradigm of relational, affective and diverse design, design education, design practice, and even design research may embrace humility, selflessness, modesty or even anonymity for the common good.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. Lars Bo Andersen et al., 'Participation as a Matter of Concern in Participatory Design', *CoDesign* 11, no. 3–4 (2 October 2015): 250–61, <https://doi.org/10.1080/15710882.2015.1081246>; Matteo Antonini, 'An Overview of Co-Design: Advantages, Challenges and Perspectives of Users' Involvement in the Design Process', *Journal of Design Thinking* 2, no. 1 (2021): 45–60.
2. Patsy Healey, 'On Creating the "City" as a Collective Resource', *Urban Studies* 39, no. 10 (September 2002): 1777–92.
3. Ibid.
4. Tuuli Mattelmäki and Froukje Sleeswijk Visser, 'Lost In Co-X: Interpretations of Co-Design and Co-Creation', in *Proceedings of IASDR'11*, ed. Lin-Lin Chen and Norbert Roozenburg (4th World Conference on Design Research, TU Delft: International Association of Societies of Design Research [IASDR], 2011).
5. Jane Mansbridge, 'Everyday Talk in the Deliberative System,' in *Deliberative Politics: Essays on Democracy and Disagreement*, ed. Stephen Macedo (Oxford: Oxford University Press, 1999), 211–39, 215.

6. Geoff Mulgan, *Big Mind: How Collective Intelligence Can Change Our World* (Princeton: Princeton University Press, 2017), 145–60.
7. Christopher Hight and Chris Perry, 'Collective Intelligence in Design', *Architectural Design* 76, no. 5 (September 2006): 5–9, <https://doi.org/10.1002/ad.314>.
8. Mike Douglass and John Friedmann, eds., *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age* (London: John Wiley, 1998).
9. Chiara Martinuzzi and Joy Mutai, *10 Years of Global Public Space Programme: Annual Report 2022 and Reflections on a Decade of Public Space* (Nairobi: United Nations Human Settlements Programme (UN-Habitat), 2022); United Nations, *Habitat III Policy Papers: Policy Paper 1: The Right to the City and Cities for All* (New York: United Nations, 2017), www.habitat3.org.
10. David Harvey, 'The Right to the City', *International Journal of Urban and Regional Research* 27, no. 4 (December 2003): 939–41, <https://doi.org/10.1111/j.0309-1317.2003.00492.x>; David Harvey, *Rebel Cities: From the Right to the City to the Urban Revolution* (New York: Verso, 2019).
11. Maurice Hartevelt, 'Reviewing Premises on Public Spaces in Democratic, Inclusive, Agential Cities', *The Journal of Public Space* 4, no. 2 (2019): 123–43.
12. Louis Wirth, 'Urbanism as a Way of Life', *American Journal of Sociology* 44, no. 1 (1938): 1–24.
13. Herbert W. Harris, Howard C. Blue and Ezra E. H. Griffith, *Racial and Ethnic Identity: Psychological Development and Creative Expression* (New York: Routledge, 1995).
14. Max Nathan, *The Economics of Super-diversity: Findings from British Cities, 2001–2006*, Discussion Paper 68 (London: SERC, 2011).
15. Gilles Deleuze and Félix Guattari, *Mille plateaux: Capitalisme et Schizophrénie 2 (Collection Critique)* (Paris: Les Éditions de Minuit, 1980).
16. Christine Boyer, *Dreaming the Rational City: The Myth of American City Planning* (Cambridge, MA: MIT Press, 1993), 282–90; Dolores Hayden, *The Power of Place: Urban Landscapes as Public History* (Cambridge, MA: MIT Press, 1995), 44, 227, 245–46.
17. Patsy Healey, *Collaborative Planning: Shaping Places in Fragmented Societies* (London: Macmillan, 1997), 284, 288–94.
18. Heather Campbell, 'Just Planning: The Art of Situated Ethical Judgment', *Journal of Planning, Education and Research* 26 (2006): 92–106.
19. Ibid.
20. Federico Cugurullo, *Frankenstein Urbanism: Eco, Smart and Autonomous Cities, Artificial Intelligence and the End of the City* (London: Routledge, 2021).
21. Paulo Freire, *Pedagogy of the Oppressed* (New York: Continuum, 1970), 31.
22. Gilles Deleuze, *Différence et répétition* (Paris: Presses Universitaires de France, 1968), 31.
23. Michel Foucault et al., *C'est Demain la Veille: Entretiens avec l'Actuel Nova* (Paris: Éditions du Seuil, 1973).
24. Henri Lefebvre, 'Le droit à la ville', *L'Homme et la société* 6 (1967): 29–35.
25. Jeannette Laot, *Stratégie pour les Femmes* (Paris: Les Éditions Stock, 1977), 79–80, 177, 214.
26. Deleuze and Guattari, *Mille plateaux*, 9–16.
27. Sherry R. Arnstein, 'A Ladder of Citizen Participation', *AIP Journal* 35 (1969): 216–25.
28. Desmond M. Connor, 'A New Ladder of Citizen Participation', *National Civic Review* 77, no. 3 (May/June 1988): 249–57.
29. Elizabeth B.-N. Sanders and Pieter Jan Stappers, 'Co-Creation and the New Landscapes of Design', *CoDesign* 4, no. 1 (March 2008): 5–18, <https://doi.org/10.1080/15710880701875068>.
30. Alvin Toffler, *The Third Wave* (New York: William Morrow and Company, 1980), 426, 457–58.
31. Stanley King, Melinda Conley, Bill Latimer, and Drew Ferrari, *Co-Design: A Process of Design Participation* (New York: Van Nostrand Reinhold, 1989).
32. H. Goeller, 'Mind that User's Mind: Incorporating Cultural Difference to User-Centred Design Approaches,' in *Collaborative Design: Proceedings of Co-Design 2000*, ed. Stephen A. R. Scrivener, Linden J. Ball and Andrée Woodcock (London: Springer, 2000), 17–26.
33. Stephen Davies, Kathleen Love and Susan Ziegler, *What Do People Do Downtown?: How to Look at Main Street Activity* (Chicago: National Main Street Center, 1981).
34. Ibid.
35. Ezio Manzini and Rachel Coad, *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (Cambridge, MA: MIT Press, 2015).
36. Deleuze, *Différence et répétition*.
37. Robert Alexander Gorny, 'Reclaiming What Architecture Does: Toward an Ethology and Transformative Ethics of Material Arrangements', *Architectural Theory Review* 22, no. 2 (2018): 188–209.
38. Bruno Latour and Pierre Lemonnier, eds., *De la préhistoire aux missiles balistiques: L'intelligence sociale des techniques* (Paris: La Découverte, 1994), 11–24.
39. Pierre Levy, *L'intelligence collective: pour une anthropologie du Cyberspace* (Paris: Éditions La Découverte, 1994).
40. Bruno Latour, 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern' (Stanford Presidential lecture), *Critical Inquiry* 30 (Winter 2004): 225–48.
41. John Dewey, *The Public and its Problems* (Denver: Alan Swallow, 1927).
42. Bruno Latour, 'From Realpolitik to Dingpolitik, or How to Make Things Public', in *Making Things Public: Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel (Boston: The MIT Press, 2005), 14–45.

43. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), 101.
44. Charles Landry, *The Creative City: A Toolkit for Urban Innovators* (London: Earthscan Publications, 2000), 185.
45. Richard Normann and Rafael Ramirez, *Designing Interactive Strategy: From Value Chain to Value Constellation* (Chichester: John Wiley & Sons, 1998), 141–44.
46. Richard Sundeen, 'Explaining Participation in Co-Production: A Study of Volunteers', *Social Science Quarterly* 69, no. 3 (1988): 547–68.
47. Hélène Frichot, 'Foaming Relations: The Ethico-Aesthetics of Relationality', in *Occupation: Negotiations With Constructed Space, Conference Held at the University of Brighton* (CD-ROM Brighton, 2009), 35–38.
48. Félix Guattari, *Chaosmose* (Paris: Editions Galilee, 1992).
49. Félix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton (London ; New York: Continuum, 2005).
50. Gerhard Bruyns and Stavros Kousoulas, 'An Introduction to Design Commons', in *Design Commons*, ed. Gerhard Bruyns and Stavros Kousoulas (Cham: Springer International Publishing, 2022), 5.
51. Heidi Sohn, Stavros Kousoulas and Gerhard Bruyns, 'Introduction: Commoning as Differentiated Publicness', *Footprint* 9, no. 16 (2015): 1–8.
52. Ibid., 5.
53. Noga Keidar et al., 'Progress in Placemaking', *Planning Theory & Practice* (December 2023): 2.
54. Bruyns and Kousoulas, 'An Introduction to Design Commons', 7.
55. Gorny, 'Reclaiming What Architecture Does', 192 ; Wanda J. Orlikowski and Susan V. Scott, 'Exploring Material-Discursive Practices', *Journal of Management Studies* 52, no. 5 (2015): 697–705.
56. Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford: Oxford University Press, 2007).
57. Guattari, *The Three Ecologies*.
58. Sanders and Stappers, 'Co-Creation', 5–18.
59. Gorny, 'Reclaiming What Architecture Does'.
60. Rosi Braidotti, 'Posthuman Critical Theory', *Journal of Posthuman Studies* 1, no. 1 (2017): 14.
61. Isabelle Doucet and Hélène Frichot, 'Resist, Reclaim, Speculate: Situated Perspectives on Architecture and the City', *Architectural Theory Review* 22, no. 1 (January 2018): 1.
62. Donna Haraway, 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', *Feminist Studies* 14, no. 3 (Autumn, 1988): 575–99.
63. Setha Low, *Spatializing Culture: The Ethnography of Space and Place* (London: Routledge, 2017); Setha Low, 'Embodied Space(s): Anthropological Theories of Body, Space, and Culture', *Space and Culture* 6, no. 1 (2003).
64. Setha Low, 'Claiming Space for Engaged Anthropology: Spatial Inequality and Social Exclusion', *American Anthropologist* 113, no. 3 (2011): 389–407; Setha Low and Sally Merry, 'Engaged Anthropology: Diversity and Dilemmas', *Current Anthropology* 51, no. 2 (2010): 203–26.
65. Clifford Geertz, 'Making Experiences, Authoring Selves', in *The Anthropology of Experience*, ed. Victor W. Turner and Edward M. Bruner (Urbana: University of Illinois Press, 1986).
66. Shelley Evenson, 'Directed Storytelling: Interpreting Experience For Design', in *Design Studies: Theory and Research in Graphic Design*, ed. Audrey Bennett (New York: Princeton Architectural Press, 2006).
67. Dolores Hayden, *The Power of Place: Urban Landscapes as Public History* (Cambridge, MA: MIT Press, 1995), xiv, 46–47, 228–29.
68. Healey, *Collaborative Planning*, 284.
69. María Puig de la Bellacasa, *Matters of Care: Speculative Ethics in More than Human Worlds* (Minneapolis: University of Minnesota Press, 2017), 169–70.
70. Karen Barad, 'Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter', *Signs* 28, no. 3 (Spring 2003): 801–31.
71. Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 58.
72. Setha M. Low, 'Toward an Anthropological Theory of Space and Place', *Semiotica* 175 (June 2009): 21–37.
73. Lara Schrijver, ed., *The Tacit Dimension* (Leuven University Press, 2021), 7.
74. Maurice Hartevelde, 'Interior Public Space: On the Mazes in the Network of an Urbanist' (doctoral diss., TU Delft, 2014), 502–45.
75. Gorny, 'Reclaiming What Architecture Does'.
76. Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 376–77.
77. Haraway, *Staying with the Trouble*, 65.
78. Henry Petroski, *Success through Failure: The Paradox of Design* (Princeton, New Jersey: Princeton University Press, 2018).
79. Doina Petrescu et al., 'Sharing and Space-Commoning Knowledge through Urban Living Labs across Different European Cities', *Urban Planning* 7, no. 3 (2022): 254–73; Cyrille Hanappe, Beatrice Mariolle and Cristiana Mazzoni, *Ecologie riveraine: la Seine-Saint-Denis à horizon 2030* (Paris: Éditeur La Commune, 2024); AAA website, <https://www.urban-tactics.org/projets>.
80. Jan Liesegang, Markus Bader, Julia Klauer and Suzanne Labourie, *Building the City Together* (Berlin: ZK/U press, 2015); Louis Volont, 'Is Common Space Politically Potent? A Reflection on Raumlabor's Aesthetic Gesture', *Forum+* 28, no. 1 (2021): 12–19; George Kafka, 'Floating University in Berlin, Germany by Raumlabor', *The Architectural Review*, 26 September 2022, <https://www.architectural-review.com/buildings/floating-university-in-berlin-germany-by-raumlabor>;

Raumlabor website, <https://raumlabor.net/partitatives-bauen>.

81. Santiago Cirugeda, *Situaciones Urbanas* (Barcelona: Tenov, 2007); Marina Arespachaga Maroto, *Autoconstrucción, La Escuela Crece en la Biennale di Venezia (A Self Construction Project / Progetto di Autoconstruzione / Projet d'Autoconstruction)* no. 1 (May 2016), https://theshowroom.org/media/pages/events/recetas-urbanas-data-sheets/0dede30ec4-1695373354/the_school_grows__madrid.pdf; Recetas Urbanas website, <https://recetasurbanas.net/espacio-publico>.

Biography

Mar Muñoz Aparici is a registered architect and researcher at TU Delft, specialising in design approaches and methods to activate public spaces. Her work is at the intersection of urban design and architecture, with a focus on publicness in cultural and community buildings. She has contributed to projects such as MAKERLAB, which explores how co-creation and design foster cultural value formation in public makerspaces. She has also been a design fellow at Museum Boijmans Van Beuningen, where she studied the adaptive reuse of art spaces for community engagement. Mar is a pioneer in design-driven research and an active member of the European CA2RE+ research network, which promotes the co-development of innovative approaches in this field. She is also part of the New European Bauhaus community, engaging in initiatives such as NEB Goes South and digiNEB. As director of the design studio lamardebe in Valencia, she combines theory and practice, leading design, research and curatorial projects internationally.

Affiliated to the chair of Urban Design at TU Delft, Maurice Hartevelt's work focuses on public space. His theoretical concepts of 'interior public space' and 'interior urbanism' has brought different design disciplines together while pushing the boundaries of urban design in particular. Subsequently, his developing thoughts on 'domesticated public space' overlap with cultural anthropology, urban sociology and environmental psychology. This push guided him to develop transdisciplinary and subjective methods. Maurice is thematic lead on Mixed Methods and Design Strategies of the LDE Centre PortCityFutures, leads the Design of Public Spaces research group, and has been leader of research projects City of the Future and Post-Pandemic Public Spaces. His work extends to the Delft Design for Values Institute, and Delft Deltas, the Infrastructures & Mobility Initiative, and to several places and positions around the globe. Next to this, he works at the Netherlands Architects Register.

Reconfiguring the Soft Operation Field: Architecture of Collective Metabolisms

Eda Yeyman and Ayse Sentürer

Istanbul Technical University, Türkiye

Corresponding Author Mail

yeymaneda@gmail.com

ORCID

Eda Yeyman <https://orcid.org/0000-0003-1237-9452>

Ayse Sentürer <https://orcid.org/0000-0002-5299-1390>

How to Cite

Eda Yeyman and Ayse Sentürer, 'Reconfiguring the Soft Operation Field: Architecture of Collective Metabolisms', *Footprint* 36 (2025): 61–74, <https://doi.org/10.59490/footprint.19.1.7497>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

The evolution of architecture calls for a redefinition of materialism, urging a departure from deterministic systems towards non-linear causality and systems far from equilibrium. This entails recognising the dissolution of human-in-human boundaries and advocating for tactile and sensory bodies that initiate metabolic changes by penetrating environments. Isabelle Stengers critiques the tendency to frame thought within pre-existing planes, labelling it as stupidity, and advocates for an architecture that proliferates rather than condemns.

With this article, we propose to explore architecture's singular conditions through the concept of trans-scalability, akin to transitioning from micro-subatomic to macro scales. We look at what enables transitions between scales, agents, fields and the realms of theory and practice. Additionally, we scrutinise how spatial construction practices, influenced by non-cartographic scale considerations and engaged with micro-subatomic dimensions, can impact contemporary architectural practices. To illustrate this, we present an

alternative approach to transscalability through the work of Rachel Armstrong. With this new material reading, our aim is to view architecture as an interface between the world's multiplicities and to explore how an architectural practice more attuned to the intersecting dynamics of various fluxes can be realised. With this approach, we aim to contribute to perceiving the world through its unstable and temporary material dimensions, thereby resisting stupidity.

Keywords

Micro-macro, transscalability, transitions, posthuman, experimental architecture

The dissolution of human-non-human boundaries, the transformation of time into a material process, and the awareness of architecture's capacity to intervene in the flows and metabolisms within it indicate the need to redefine the conditions of materialism for architecture. The understanding of matter as passive, silent, stable and unchangeable is now outdated, as it implies that matter can only be manipulated by the designer. This shift where 'matter is empowered not just as an aspiration but as a reality' alters the relationship between architecture and matter, allowing the 'agency of matter to speak'.¹

Given that the material world is dynamic and changeable, it is better to think of its effects in systems that are far from equilibrium rather than deterministic systems. To establish such a relationship with materialism, it is essential to conceive of life as metastable too, as Andrej Radman suggests.² This 'metastable milieu' is constantly on the edge of equilibrium and disequilibrium and always on the verge of collapse.³ In this context, the emphasis is not solely on architecture itself, but on the invisible forces that enable architecture, and the object of design is not only to create space in a Cartesian void, but also to be aware of all the physiological, biological, electromagnetic and chemical

layers that the space encompasses.⁴ Rachel Armstrong takes this a step further and argues that 'today's architecture should consist of tactile and sensory bodies that penetrate, orbit, and seep from their environments.'⁵ Therefore, Armstrong sees architecture as part of a 'broader metabolic series, even capable of initiating a new one, in which architecture not only alters its own bodily form but also changes its surroundings.'⁶ This perspective on metabolism focuses on observing the micro-scale effects by dissolving the architectural object, and thus emerges as a way of thinking, imagining, and relating to both humans and non-humans, emphasising their interconnectedness. This interconnectedness also challenges the distinction between living and non-living, bringing architecture closer to living systems that continuously adapt to new configurations as their environment changes and resists equilibrium. Such an approach fosters the development of an alternative form of architectural practice, one that addresses the challenges of an unstable world not as a one-time solution, but as an ongoing process, integrating the parallel evolution of heterogeneous elements into design thinking. Two points become clear in this context: first, that it is inevitable for architecture to establish relationships beyond its own scale and connect with the wider world; and second, that architecture must embrace a constant state of flux, where every relationship formed is momentary and temporary.

Working with far-from-equilibrium systems or non-linear causality signifies the emergence of an architecture that can engage with the micro-subatomic dimension and establish interactions that span different scales. This situation signifies a jump to an entirely different scale, making the connection between microscopic bacteria and planets visible. This jump occurs because the spectrum of scale that architecture mediates is neither continuous nor holistic. Instead, as Reza Negarestani points out, 'when different scales converge, discontinuities arise, as the rules, functions, and modes of operation at each scale act independently.'⁷ Thus, it is not possible to extend an idea or understanding from microscopic particles to the macro scale, since the behaviour of matter changes entirely. The inability to address scales through top-down or bottom-up reductionist approaches indicates that interscalar relationships must be approached differently. Andrés Jaque's view of transscalability is crucial here.⁸ Jaque suggests that architecture is inherently trans-scalar. However, for Jaque, the transscalability of architecture centres on the idea of togetherness as being inherently plural, interscalar and multi-dimensional. Another important dimension of this togetherness is that it is not a matter of choice; it reflects the way existence is fundamentally composed, across various times, scales and forms of life.⁹ When thinking about transscalability, building this sense of togetherness

requires new approaches through which common ground between human and non-human, living and non-living, and micro and macro scales is created. More importantly, it necessitates thinking beyond these pre-given frameworks or categories. Similarly, Gilbert Simondon criticises the assumption that relations come after the formation of terms (subjects, individuals, objects, groups). According to him, these relations are established prior to and for any individuation. Contrary to the notion that the cosmos is pre-constructed from individuals at the macro, meso and micro scales, encompassing galaxies, planets, humans, animals, plants, technical objects, atoms and subatomic particles, Simondon focuses on the continuities within the relational ground that enable individuation. Here, there is no distinction of the individual; instead, there is an infinite variety and differentiation obtained through the thickening and thinning of potential fields.¹⁰ In this way Simondon highlights that scales and human-non-human categories are not fixed, but rather emerge as the result of relationships formed through a process, and every relation within that process is momentary and temporary.

In this context, where categories are not fixed and relationships are temporary, architecture that penetrates its environment should be focused not on reducing the scales and agents it mediates to a unified, homogenised whole, but on embracing the differences and multiplicity of scales, agents and entities. Moreover, for Armstrong an architecture that includes this multiplicity (scale, agency and so on) does not work with organised constellations of parts. Instead, it uncovers a series of transformations, jumps, deviations and transitions – characterised by partial goals, phase shifts and temporary structures.¹¹ An architectural practice that homogenises and reduces categories misses the opportunity to produce a difference each time by not engaging with the spatial-temporal plane upon which architecture builds its design thinking. Stengers advocates for an architecture which that does not belittle, condemn or eliminate actors and agents, but aims only for their proliferation. She refers to cosmopolitics, an approach that acknowledges the involvement of various entities and perspectives intertwining in the construction of knowledge and the shaping of the world. This approach considers the plurality and diversity of voices as both forms of existence and knowing.¹² Stengers criticises the tendency to frame a thought not as a contrast but as a contradiction by grounding it in pre-existing distinctions, thereby 'failing to see multiplicities'.¹³ She labels this attitude 'stupidity'.

Stengers argues that stupidity should not be seen as a 'temporary unconsciousness or a psychological state; it should not be reduced to a state of drowsiness, passivity, or the mind being asleep'.¹⁴ Stupidity is primarily characterised by a certain admiration for false problems, 'hellish

alternatives'; it is a kind of laziness or mental fatigue that manifests itself as 'natural' in every situation. Moreover, stupidity is described by a continuous confusion between the trivial, the ordinary, and the singular, an inability to understand what is important, a condition of homogenisation.¹⁵ Stengers emphasises the irrelevance of questions about knowing the world beyond human experience, critiquing the 'bifurcation of nature' as rooted in false problems. These false problems arise because the issues remain as problems of planes that were previously separated and constructed, but whose modes of construction are no longer questioned. In this situation, despite being presented as 'real', the separation between two imagined planes leads thought into a completely abstract space where all practical considerations are lost. Then, the thought, lost within its own constructions, oscillates between a reality that is merely the virtual image of its own abstraction and a subjective experience devoid of any essence.¹⁶ Thus, one cannot select what is important among thoughts that establish two separate planes, missing the multiplicity. The problem here is that contradictions turn into oppositions and eliminate each other. Stengers likens this situation to 'Platonic philosophy, which labelled all modern practices – scientific, medical, political, technological, psychoanalytic, pedagogical – that disqualified others as charlatans, populists, ideologists, astrologers, magicians, and hypnotists.'¹⁷

Stengers refers to the lack of creativity that arises from thinking within existing frameworks as 'stupidity', which corresponds to two separate yet intertwined situations in this article: the failure to recognise a heterogeneous mode of production by separating agents into human and non-human, and the tendency to view scale as an outcome independent of the process by interpreting interscale situations through fixed scale frameworks. Accordingly, based on the idea that different frameworks are only temporarily stabilised, in this article we focus on constructing transitions between them rather than isolating and separating them. From this perspective, translation serves as the means to establish communication between systems, aiming to identify the conditions for the most inclusive interaction possible.¹⁸ Translation here refers not to interpreting or explaining the implicit, but to maintaining the continuity of a state of transformation – in other words, embracing ongoing movement. According to Stengers, this also means keeping thought in motion and avoiding its transformation into a fixed endpoint or final recognition. She suggests that creating transitions between theory and practice can prevent holistic and hylomorphic tendencies.¹⁹ The question that needs to be addressed, as Stengers suggests through the concept of creating 'relays', is how these transitions can be achieved.²⁰ In this regard, Radman argues that Stengers's proposal is similar to Gilles Deleuze and Félix Guattari's

concept of 'generalized chromaticism'.²¹ According to this concept, every element is constantly subjected to variation, resulting in the emergence of new distinctions, none of which are ultimately fixed or predetermined.²²

Building on Stengers' discussion of stupidity, in this article we explore transitions between scales, agents, fields, theory and practice through the concept of transscalability. We focus on new design thinking that enables architecture to encompass scales ranging from the micro-subatomic to the planetary. The aim here is to understand how an architecture that starts with micro-scale configurations and incorporates interscalar jumps can influence spatial practices, and to explore how an architectural practice more attuned to the intersecting dynamics of various fluxes can be realised. We argue that an architecture capable of facilitating communication between various fluxes and systems can only be achieved through an alternative mode of making and design thinking. We consider Rachel Armstrong's worlding practice particularly relevant to this context. 'Worlding' refers to 'protocols for choreographing spacetime through experimental practices, inviting alternative modes of inhabitation and ways of being in the world.'²³ It also serves as a 'practice-led method for prototyping and exploring parallel worlds, synthesising ideas and discoveries, fostering responsive relationships with matter.'²⁴ In this framework, we present an alternative approach to transscalability through two works by Rachel Armstrong that employ worlding practices. The goal is to explore the possibilities of discovering a new way of reading through the material forms themselves. Choosing the filters for this new material reading is crucial, because these filters are expected to inspire new ways of architectural thinking and making.

Unfolding the transitions

Lars Spuybroek describes the process of matter formation in terms of softness, 'where what we seek in all processes – whether through hands or tools – is the degree of softness, or the discovery of an already existing one.'²⁵ For Spuybroek, 'softness goes beyond the usual preparatory phase before solidifying', revealing previously unnoticed permeability and porosity.²⁶ He explains how this softness operates through a spatial analogy, using the term *poché*, borrowed from Beaux-Arts tradition.²⁷ *Poché*, etymologically related to 'pocket' and 'purse', refers in architecture to the space between walls. It has a dual structure: 'pockets where people play hide-and-seek, but where the dead come after us; spaces where people dress, while ghosts seep from attics and monsters enter from the sewers, all while providing comfort to the house's inhabitants.'²⁸ In this way, *poché* retains its technical function, yet also becomes the zone where spirits, ghosts, and monsters infiltrate

the home. However, what gives *poché* its meaning is the presence of living spaces and homeowners, whose adjacency allows this hidden layer of technical spaces to exist. Spuybroek argues that technical spaces are transformed into spaces of imagination through their closeness with living spaces, and that creativity emerges from the gaps in this relationship.²⁹ What is important for our purpose is not that *poché* represents a physical space, but rather to recognise that the potential for new formations arises from the juxtaposition or togetherness of human and non-human. Creativity and new formations emerge through the discovery of softness in various domains.

The question that needs to be addressed is how to establish human-non-human interactions that foster creativity and enable the formation of something new. In other words, what kind of architecture can increase the amount of *poché* that remains between the walls? What is needed in architecture today is a heterogeneous mode of making that, by not maintaining a stable state of agency, promotes togetherness and facilitates transitions between fields, agents and scales – filters proposed for the new material reading. In this sense, such a reading aligns with Simondon's concept of heterogeneous modes of production.

Gilbert Simondon was a French philosopher known for his significant criticisms of hylomorphism. His critique is that it views the individual as static, emerging before any process of formation.³⁰ He describes a hylomorphic schema as 'a process described by a free person and carried out by a slave', placing architectural production within a hierarchical system.³¹ Simondon suggests looking at the relationship between form and matter differently, without prioritising one over the other. He exemplifies the matter-form pair through moulding. In a hylomorphic schema, moulding consists of passive matter (clay) affected by the ideal form (mould). Simondon considers this mode of making abstract because, in his view, neither the clay nor the mould is passive and static; both possess capacities for affect. This perspective neglects the real qualities of both the clay and the mould, because it doesn't describe how both need to be prepared for their mutual but non-reciprocal uses. To enable the clay to take on the mould's shape, the clay's microphysical structure must align with the mould's macrophysical forces. Thus, both the clay and the mould must undergo preparatory processes. According to Simondon, there's not a one-time but a 'continuous temporal moulding process' between the clay and the mould.³² The relationship between form and matter, as exemplified by Simondon, applies to any situation of individuation where categories are not fixed but emerge through relationships formed in a process. Since human and non-human categories are also established through individuation, this process is continuous, not a one-time event. Consequently, the goal is

to consider the ongoing process and design transitions between agents without attempting to regulate any fixed state of agency.

In addition to transitions between agents, it is essential to discuss transitions between knowledge fields or disciplines in the context of complexity theory, particularly thermodynamics, and their influence on architectural theory. Mariam Fraser, Celia Kember, and Sarah Lury suggest that due to developments in various disciplines over the past two decades and the effects of neo-vitalism, there has been a shift from reductionist analyses to towards systems at the edge of chaos within an order.³³ There is an opportunity for architecture within the theory of complexity, related to the effects of a system capable of generating far-from-equilibrium states and multiplicities over time along a line of individuation. Peter Kugler and Robert Shaw argue that when a snapshot is taken of the system at the moment of individuation, it is possible to see effects at different scales, not just at a singular scale.³⁴ Similarly, the work of Ilya Prigogine and Stengers suggests that the microscopic properties of matter, such as its essence, particles and molecules, behave independently at different equilibrium levels but act together under non-equilibrium conditions at the macroscopic levels.³⁵ Although the system may not function together at every scale, the idea that it can work together to represent a whole implies that the macroscopic and microscopic conditions of a system may differ, or a newly configured arrangement at the subatomic level may have a more widespread impact. Thermodynamic principles or non-equilibrium conditions suggest the idea that different scales may need to be comprehended to intervene in a system. In other words, it is evident that changes at a singular scale alone are insufficient for observing and understanding the holistic complexity of a system.

It can be said that thermodynamic principles offer not only a nourishing perspective on the understanding of how different fields interact with each other, but also transitions between the scales. Zachary Horton argues that 'disciplines are bound by the resolution of specific scales – each discipline selecting a particular scale as its focus'.³⁶ If disciplines indeed partition the world into scales and generate knowledge at these boundaries, any transition between disciplines inherently involves a shift in scale, accompanied by discontinuities and jumps, even if it doesn't correspond to distinct dimensions of the scale itself.³⁷ This perspective on disciplines and their knowledge production blurs the boundaries between scales. Here, conceiving of architecture as transscalar involves more than approaching and engaging with resolutions at various scales, but more profoundly, the convergence of previously unconsidered scales within one another. Karen Barad describes this intrinsic connectedness of the universe not as a pre-existing interwoven

connection between 'nested scales', but as the entanglement, 'the interpenetration of different scales through one another as agents.'³⁸

As seen in this section, the filters proposed for the new material reading create slippery areas within themselves, where the reason for constructing a transition is interconnected with others.

Methodology: Rachel Armstrong's collective metabolisms

Rachel Armstrong sees the potential in living systems as building materials. Along with her research group, she develops architectural systems that are adaptive and responsive to their environment, effectively demonstrating the relevance of dynamic chemical, microbial, and biological systems to architectural design.³⁹ Her research explores how the properties of living systems can be harnessed and scaled to create environmental solutions within architecture.⁴⁰ Armstrong advocates for designing conditions of change for all living beings and systems, believing that collective behaviour will positively affect the planet and increase its efficiency. She examines the metabolisms of microorganisms to explore the possibilities for shared and ongoing survival. According to Armstrong, 'we are all *worlders* now; there is no other choice.'⁴¹

Armstrong suggests that living systems, through their metabolisms, can regulate energy usage and develop strategies to survive over a lifetime by continuously optimising raw material use and adapting chemical strategies to changing environments. She emphasises that living systems resist 'decaying into equilibrium' and escaping death, constantly 'optimizing processes and adapting to new configurations as their environment changes'.⁴² Chemical processes such as energy uptake and waste disposal occur through metabolism in living organisms, allowing them to 'distribute materials used for metabolism' in various ways over time and space.⁴³ According to Larry Moran, Armstrong's 'living systems' exhibit some qualities of fully alive agents, such as growth, movement or sensitivity, but may not be fully classified as 'alive'. Yet, they share the same chemical language as the biological world, allowing organisms and their environments to ultimately 'co-evolve'.⁴⁴ Therefore, Armstrong investigates the material conditions for mutual thriving through a 'deep relationship with materiality that promotes cooperation, openness, synthesis', and the connection between life and death.⁴⁵ She believes that for this to occur, materials should be meaningfully structured at the molecular level, utilising natural energy flows within their components. Consequently, she aims to develop materials using a 'bottom-up approach', viewing this as a departure from the traditional hylomorphic order imposed on systems.⁴⁶

Drawing on the properties of living systems, Armstrong develops a toolkit that addresses uncertainty by replacing deterministic concepts with probabilities in her experimental practice. This toolkit comprises both conceptual and practical approaches to generating new types of architecture, involving the construction of architectural prototypes and models based on data from scientific experiments.⁴⁷ This approach not only validates the experimenter's assumptions but also reveals new possibilities, shifting from a world of command and control to a dialogue between the experimenter and the experiment.⁴⁸ Armstrong states that she is not 'proposing to construct a particular architecture, but rather to identify a new technological platform based on interactions among lively, material assemblages that may increase the range of architectural species'.⁴⁹

Thus, Armstrong produces experimental prototypes that explore life, ecology and planetary systems through a practice of worlding, which she calls Soft Living Architectures. Emerging from agile prototypes at various developmental stages, these architectures are 'highly heterogeneous and metabolically active – being neither fully alive nor inert'.⁵⁰ Soft living architectures consist of 'dynamic materials in far-from-equilibrium states', which are typically 'soft' (at least initially) as they facilitate liquid systems that supply nutrients and remove waste. This platform has the potential to expand the range of architectural species and generate new forms of aliveness while fostering new relationships through infrastructures that enable this aliveness to coexist with air, water, and soil.⁵¹ It serves as the 'foundation for a range of dynamic materials coordinated using natural computing techniques' and proposes an alternative portfolio of tools for producing architectural spaces, including ecological apparatuses such as dynamic droplets.⁵²

With this framework, we will examine two examples of Armstrong and her collaborators' Soft Living Architectures, focusing on how micro-subatomic configurations relate to the establishment of architecture: 1) Philip Beesley's Hylozoic Ground installation, in collaboration with Hayley Isaacs, Eric Bury, Jonathan Tyrrell, Rob Gorbet (Gorbet lab) and Rachel Armstrong (Experimental Architecture Group) and 2) the Living Architecture project, in collaboration with experts from the universities of Newcastle, the West of England (UWE Bristol), Trento, the Spanish National Research Council, LIQUIFER Systems Group, and Explora.⁵³

The first example of Soft Living Architecture is The Hylozoic Ground installation, exhibited at the Canada Pavilion during the twelfth Venice Architecture Biennale in 2010. This installation is part of a series of collaborative installations developed over four years. The first iteration of the Hylozoic series was exhibited in Montreal (2007–08), Madrid (2008–09) and Linz (2009), while the expanded

version of the series was showcased in New Orleans (2009), Quebec City (2010) and Mexico City (2010). It is a 'semi-living architectural work incorporating chemical organs capable of perceiving carbon dioxide and generating brightly colored microsculptures'.⁵⁴ The project operates as a synthetic soil at an architectural scale, responding to changes in the environment and human behaviour, whereby space begins to form in response to these stimuli.⁵⁵ According to Armstrong, the chemistry of Hylozoic Ground serves as an evolving platform where material and technological systems interconnect, allowing matter to react at the molecular scale.⁵⁶ In fact, this project fits into the soft living architectural portfolio because it is based on the synthetic capacities of minerals and the potential programmability of matter through prepared matrices such as soils and clays.⁵⁷ The microsculptures consist of dynamic droplets and gel plates that trigger chemical changes within the system. These elements explore how liquids with metabolic properties can be used in prototypes and interconnected within a 'neural network, influencing one another'.⁵⁸ The system includes thousands of lightweight components integrated with microprocessors, microcontrollers and sensors, forming an artificial forest of interactive leaves that oscillate between a cybernetic framework, the environment and visitors.⁵⁹ Armstrong notes that groups of these structures may attract each other and, after initial interaction, produce 'skins' almost simultaneously, suggesting a basic form of chemical communication between them.⁶⁰ This is because the installation possesses intelligence, through liquid chemistries that react to carbon dioxide triggered by human presence, performing breathing, stroking and swallowing movements, which are characteristic of living systems.⁶¹ [Fig. 1]

The second example of soft living architecture is the Living Architecture project, a modular bioreactor wall based on microbial fuel cell technology and synthetic microbial consortia.⁶² These bioreactors can be programmed to harvest resources from sunlight, wastewater and air, using them to create biomass, proteins and oxygen. The bioreactors are designed as standardised building segments, or 'bricks', with the goal of increasing domestic resource efficiency.⁶³ These bricks, consisting of a microbial fuel cell, an algae bioreactor and a genetically modified processor provide infrastructure within a building while creating space for specific microorganisms.⁶⁴ The microorganisms can generate electricity, clean nitrogen gases, extract valuable inorganic components from waste and purify greywater. To perform these functions, the environments to which microorganisms are exposed are simulated and recreated within the bricks, activating the microorganisms. Therefore the Living Architecture project acts as a 'regulation system' that creates mutually beneficial exchanges between

electrical, physical and chemical interfaces resembling a metabolic trading system, which is open to human interaction. Feedback loops within the system encourage a thriving ecosystem, where human microbiota become integral to the flows of food, water and waste, uniting people in a holistic 'living' system.⁶⁵ This project not only transforms living spaces from inert habitats into environmentally sensitive and productive sites but also raises the possibility of a more active relationship between humans and natural processes. In this relationship, humans could 'speak' with the living world through 'chemical, physical, biological, mechanical, and even digital means'.⁶⁶ Living Architecture has the potential to alter our perspective on resource management and sustainability in the near future, demonstrating that soft living architecture can catalyse radical social and cultural change. [Fig. 2]

Although these two examples of Soft Living Architecture vary in scale, sphere of influence and practice, we consider it more meaningful in this article to examine the continuity of Armstrong's architectural philosophy and the limitations of the discourse through both projects, rather than evaluating them individually. Therefore, we ask: What happens when architecture is considered on such a micro-subatomic scale? With this question, clues are sought about how ideas at the micro level can be realised on a macro scale, fostering a transscalar architecture. We use the idea of transition mentioned above as a filter for reading the projects; we examine them in terms of a) transitions between fields, b) transitions between agents, c) transitions between scales, d) resolution and e) shortcomings.

a) Transitions between fields. Rachel Armstrong utilises chemicals such as iron and calcium salt-based structures at the oil-water interface in both of her projects. Her aim is to engage with and intervene in the metabolisms of microorganisms and the environmental fluxes. To achieve this, she creates 'communication corridors' between chemistry and architecture, facilitating transitions not only between different disciplines but also across various agents within the project.⁶⁷

Armstrong defines protocells as dynamic droplets that work with chemicals, and she employs them in the Hylozoic Ground Project. According to Armstrong 'protocells are simple chemical systems that exhibit behaviours similar to living organisms'.⁶⁸ While their mechanism of action is complex and not easily defined, they appear to create an environment where a semipermeable barrier separates one set of chemical reactions from another, generating an energy gradient between the two systems.⁶⁹ Armstrong explains that 'protocell technology enables the chemical programming of various surfaces and microstructures with shapes reminiscent of biological structures' by adjusting both the medium they operate in and their internal metabolism.⁷⁰



Fig 1: The Hylozoic Ground series. Left: Hylozoic Soil, Festival de Mexico, 2010; centre: sensor lash assemblies, Montreal Museum of Fine Arts, 2007; right: protocell detail, Festival de Mexico, 2010. Images: Philip Beesley Architect Inc. (PBAI).

Fig 2: The Living Architecture Project. Left: Living bricks, Tallinn Architecture Biennale, 2017; right: Living Architecture installation, 2019.

Photos: Rachel Armstrong, courtesy of the Living Architecture consortium.

Notably, protocells appear capable of both interacting and collaborating on a population scale, as well as undergoing changes at the individual level.

Spiller and Armstrong emphasise that protocells are associated with more 'primitive regulatory forces', interacting with physical and chemical processes rather than biological ones.⁷¹ They describe protocells as having the ability to spontaneously organise themselves chemically through the process of emergence, where new properties arise from the molecular-level interactions of simpler systems. Even though they could resemble 'a bottom-up form of synthetic biology', they 'differ fundamentally from biology in that they have not been produced through the regulatory system of DNA'.⁷² Armstrong regards protocells as 'material computers', with the ability to process information through alternative sets of instructions and regulatory pathways, distinct from those controlled by DNA.⁷³

Moreover, in all types of protocell technology, Armstrong notes that species and dynamic interactions occur at an interface. In other words, the interface serves as a point of contact between the two systems, knowledge fields. As a result of this relationship, sophisticated structures are formed that distribute inert elements across space and time.⁷⁴ Within this framework, transitions between different fields – chemistry and architecture – are facilitated by interfaces that create communication corridors between them. In fact, because the interface facilitates communication and translation between two fields, it also enables transitions between agents, allowing for heterogeneous modes of making in Armstrong's practice.

b) Transitions between agents. In both the Hylozoic Ground and Living Architecture projects, the transitions between agents rely on interfaces that make the structure of microorganisms visible and allow for external intervention. Therefore, their emergence and development cannot be explained solely by human effort. Armstrong emphasises that the 'chemistries in the Hylozoic Ground act as co-designers rather than merely materials of the installation'.⁷⁵ Also in the Living Architecture project, Armstrong works with a collaborative team of architects, chemists, and systems designers who 'programme' microbial populations by modifying and spatially organising them through a metabolic interface that transforms substances based on their inputs. The role of the designers is to determine the rules of their own software and initiating the configuration and activation of units, which are the microorganisms that perform the actual work of metabolism. While the microorganisms carry out the metabolic processes, humans are responsible for 'feeding' them according to the system's readable values.⁷⁶ In this case, the interface enables access to microorganisms by ensuring that the data is readable and comprehensible to humans. When

Armstrong assigns responsibility to humans, she requires them to learn the interface and let it guide them, as this is the only way humans can communicate with the organism's metabolic reactions.⁷⁷ Therefore, Armstrong includes people in the process by assigning responsibility in the Living Architecture project. What is significant here is that Armstrong does not distinguish between experts and non-experts; instead, she distributes responsibility equally for a collective effect. As a result, the heterogeneous mode of making between microorganisms and humans extends beyond just two different agents; it also encompasses the transitions between experts and non-experts.

What enables humans and microorganisms to work in shifts is the 'soft' design process, which allows for human intervention from time to time. Armstrong incorporates a 'margin of uncertainty' that opens up space for matter to act independently, influenced by the varying speeds of chemical reactions.⁷⁸ She views this process – characterised by 'uncertainty, creativity, and surprise' – as being guided through modes of soft control.⁷⁹ Armstrong argues that the results of this kind of agency can be modified and interacted with through non-traditional computing methods that engage with spatial programs and concepts of 'soft control'.⁸⁰ This mode of control – both in Hylozoic Ground and Living Architecture projects – expresses itself through unresolved material phenomena like ectoplasms, ghosts and monsters inhabiting transitional spaces, while still preserving their radical potency. Interwoven with their frameworks, they have the potential to evolve into a type of embryology: 'not as morphological aesthetic, but as an evolving materiality that differentiates, grows and becomes increasingly autonomous'.⁸¹

As a result, rather than being deterministic agents, 'the chemistries in the Hylozoic Ground exhibit a degree of unpredictability that is determined by the particular site and context in which they function'.⁸² Therefore Armstrong calls this uncertain, evolving materiality 'lively matter', and explain this as follows:

for example, when hydrogen and oxygen gases are combined under terrestrial conditions, they produce a liquid, water, the properties of which are unpredictable based solely on the knowledge of the original reactants. Matter becomes especially unpredictable when it is far from equilibrium, as it is highly responsive to environmental conditions, dynamic, and exhibits a form of inherent "intelligence" – the ability to make "decisions" during transitional states.⁸³

Here Armstrong recognises the ability to respond to the temporal and spatial context as 'making decisions' and she uses this phrase as a metaphor to emphasise the change in role of the designer: the designer is 'decentred' in this

heterogeneous mode of practice.⁸⁴ However, for Armstrong, 'because living architecture focuses on the structural frameworks that enable "living" materials to persist, their design practices are as crucial as those in object-making design cultures'.⁸⁵ In other words, 'the hard geometries, inert materials, and fossil fuel energy sources that characterise the industrial modes of making in modern architecture are being replaced by strategies that prioritise maintaining flow, adjusting system balances, coupling disparate elements, and integrating catabolism and anabolism'.⁸⁶ These approaches prioritise synthesis and decay over traditional drivers like 'form and function' in the design process.⁸⁷

Both the presence of the interface and its operation with a soft control mode and uncertainty facilitate transitions between agents. This shifts the role of the architect and the traditional drivers of architecture, fostering a more interconnected relationship with the world.

c) Transitions between scales. In both of these projects, the microorganisms themselves are regarded as the starting point. Protocells and dynamic droplets have the capacity to encompass many scales, including both human and non-human elements such as biofilms, bricks, walls, cities, weather, oceans and soils. However, the transitions between scales, particularly evident in the Living Architecture project, encompasses a perspective on resource consumption and efficiency on a global scale. Armstrong articulates this vision as follows:

Bricks in our homes could transform into materials that sustain us, reshaping our homes, economies, and cities. Thus, living architecture permeating daily rituals not only manages material flows within a home but also embodies systemic change potential inherent in the material, showcasing alternative paradigms for home economies. Through our interaction with microorganisms, a world is envisioned where everyday human activities contribute to planetary revitalization.⁸⁸

In this project Armstrong, proposes to reconstruct the architectural toolkit and redefine architectural space using the previously mentioned critical practice of worlding. She aims to (re)civilise the world, transforming how we think, work and live together, and proposes to recall a form of construction similar to the Tower of Babel by reassigning responsibility to humans.⁸⁹ Armstrong integrates her living bricks and the walls constructed from these bricks into existing spaces, thereby not only intervening in active metabolisms but also addressing ecological concerns in architectural design. She seeks to observe the effects of her system incrementally, starting from basic components to 'niche, infrastructure, and space', and progressing towards a cosmological narrative by gradually increasing the scale.⁹⁰ This awareness evolves over time through shared knowledge and

know-how among participants, creating a collective memory based on previous contributions. Armstrong's practice fosters interdisciplinary and inter-encounter involvement through the transfer of practical knowledge and know-how, collaborating with a diverse range of lively actors rather than merely transferring theoretical concepts.

The concept of fostering interconnected life and observing the effects of a single behaviour within the system is present in the Hylozoic Ground project. Unlike Living Architecture, this project does not aim for planetary impact. Here, the liquid structure of one protocell affects others, influencing the system's collective behaviour. The design aligns with its elements' behaviour and immediately adapts to environmental changes and human movements. While both projects encompass various scales, effects in Living Architecture appear over a longer period, while Hylozoic Ground shows more immediate reactions.

d) Resolution. In her practice, Armstrong establishes a relationship between the internal structure of liquids and spatial configurations in two ways: first, using design as the site of translation, and second, through intermediary objects.

The first method is applied in the Living Architecture project, where microorganisms with diverse functions are activated by recreating their natural environments within the bricks. This redesigned brick allows organisms to collaborate within a single structure, housing anodic compartments for bacteria, cathodic compartments for algae, and spaces for genetically modified organisms.⁹¹ A key achievement of the project is that it enables diverse microorganisms to collaborate in performing complex biological functions that no single microorganism could do alone.

The second method, used in the Hylozoic Ground installation, involves altering the liquid's structure through additions and removals. Two types of droplets are employed: modified Bütchli droplets, which react to carbon dioxide by creating luminous structures, and fat droplets that form pearl-like clusters recording carbon dioxide levels.⁹² Both types of droplets interact with environmental changes, their responses visible in the liquid structure and in the changing behaviour of the system. The key difference between the projects lies in the use of protocells. In Hylozoic Ground, protocells serve as intermediary objects between acrylic elements and liquid, with metabolic processes occurring within them, while in Living Architecture, the design itself acts as the site of translation. Additionally, while Hylozoic Ground, as an interior installation, links changes in liquid structure to physical design, in Living Architecture, the liquid structure changes, but the brick unit remains unchanged.

Moreover, by integrating physical and digital elements, both projects become repositories of knowledge that can be documented and transferred. Philip Beesley's concept

of 'soft architectural details' encapsulates this idea.⁹³ He explains that the knowledge generated in these installations can be applied to other projects, as the data within the liquid inside the protocells can be 'homogenised', even if the installations are located in different places. In this case, the only aspect that changes, is the physical dimension of the work.

e) Shortcomings. Despite the shortcomings outlined below, these projects make a significant contribution to architectural practice by exploring how architecture can become more attuned to the intersecting dynamics of various fluxes, metabolisms and how transscalar architecture can be achieved by starting with micro-scale configurations.

The Living Architecture project, rather than envisioning a new space, focuses on altering a component of an existing space, which is why living systems remain confined within existing architectural elements. Even as a 'living' brick wall, it maintains the same spatial relationship. This raises questions about the limited design scale and the production of prototypes using living matter. Although cybernetic systems create complex environments and interact with a broader technological 'ecosystem', the architectural design scale has been overlooked, reducing this project to the design of a mere architectural component (the brick). Despite numerous exhibitions, Living Architecture has never been installed indoors. In this sense, it evokes the utopias of the 1960s, where space was envisioned as obsolete, despite aiming for impact at a planetary scale. Similarly, the Hylozoic Ground project was installed within an existing interior space with controlled environmental conditions. This suggests that the scale of projects capable of transitioning across fields, agents and scales must go beyond conventional architectural scales, requiring a redefinition of architecture's spatial concepts. What is significant here is that design at the component level proposes an alternative way of making, establishing a collective practice where human and non-human agents collaborate.

The Living Architecture project faces criticisms similar to those directed at biotechnology in the late 1990s. While the wall functions as infrastructure reflecting domestic systems, there is little distinction between the singular and the plural. Although a plurality may encompass more types and functions, the critique focuses on the inability of multiplicity to transform a system. This issue relates to the system's responsiveness. Since the spatial experience remains unchanged, the expansion of the system's impact is primarily visible through resource use and infrastructure on a global scale, and it will take time for its effects to become noticeable. Armstrong emphasises a different approach in this project. She says that 'in architecture, flow and structure are typically seen as distinct and rival systems – flow being temporary and structure permanent'.⁹⁴ The Living

Architecture project uses organisms' metabolisms to create a sequence of modular blocks, or 'living' bricks, to reconcile this paradox within living systems. Specifically, 'it develops building elements that integrate structure and flow in response to the dynamic aspects of the living environment'.⁹⁵ Thus, the expression of multiplicity is realised through flows, rather than through structure.

With the Living Architecture project, Armstrong aims to create a new language, drawing on a method reminiscent of the Tower of Babel. However, the project becomes inaccessible because it neither explains nor establishes a common language beyond materiality. Since the living conditions of microorganisms are simulated, humans seem almost absent from the system. The goal, however, is to challenge the belief that humans can create an autonomous ecosystem separate from the rest of the biosphere, and instead, to create togetherness that foster a deeper relationship with the world.

Reconfiguring the soft operation field

The new material reading of the Hylozoic Ground and Living Architecture projects conducted in this article with the suggested filters does not aim to test the projects by dividing it into separate categories, but rather to show that the ways these transitions occur are similar. These categories alone are insufficient to explain the whole; the project operates between all of them. Therefore, *poché* is approached as a method of reading to focus on what it achieves beyond categorical distinctions.

In this regard, these two examples of Armstrong's work, which involve far-from-equilibrium systems and rely on repetitive processes and new material configurations based on metabolic models of minerals, bacteria and microorganisms, illustrate an intention to proliferate rather than eliminate agents within architectural practice. These projects transcend existing frameworks by creating transitions between agents, scales and fields, aiming for a transscalar architecture. This approach makes clear that such an outcome is only possible through an alternative, heterogeneous mode of making – embodying the softness in Soft Living Architecture.

These examples show that discovering softness not only facilitates transitions between agents, fields, and scales but also creates 'soft' areas within the design process to manage these transitions. Armstrong's proposal goes beyond collective practices by aiming to make the design process more transparent – understanding and interpreting it, including all its breakdowns and reasons, as well as the relationships between its parts. In other words, creating a soft operational field means the design process remains open to uncertainties and surprises, accommodating repeated processes and new material configurations.

Through this softness, these projects explore the possibilities of the process rather than seeking total control. With this perspective, it becomes crucial to understand how both the design process and the final design achieve these transitions and where softness manifests within the process. This requires identifying where translations occur within the design process. In Armstrong's examples, the space of translation – where two different systems encounter each other – becomes the designed space itself, raising the question of whether today's architecture functions as a translation space that brings together different systems. Viewed through this lens, the role of the architect shifts to that of a translator of the world's diverse voices, navigating different vocabularies to facilitate communication between various disciplines.

Architecture capable of translating these voices can engage with disciplines such as philosophy, mathematics, media, cybernetics, ecology, biology and computation, moving away from a central position to negotiate with other fields. In every negotiation, the boundaries of architecture are also transformed. As the discipline adapts and becomes more relevant and fluid, new operational areas and collaborations will emerge. As seen in Armstrong's examples, creating an experimental field paves the way for a transscalar architecture by producing new bodies and materialities, demonstrating that such architecture can encompass diverse fields of knowledge and various scales through its broad relationships. Furthermore, they suggest that for architecture to have an impact at a planetary scale, it should scale down rather than up. The micro-scale offers potential because it works with molecular flows, enabling close interaction with materiality that fosters collaboration, openness, synthesis and the interplay between life and death by exploiting the inherent energy flows in its constituent parts. At this far-from-equilibrium scale, architecture remains open to new configurations, unrestricted by predetermined frameworks between living and non-living or human and non-human, fostering creativity. Thus, rather than emphasising a transscalar architecture, we propose an architecture that integrates into the world's metabolic flows by starting the design process with micro-subatomic configurations.

Explained this way, architecture can encompass multiple scales, from micro to macro, offering the potential to reshape spatial construction practices and serve as an interface between the world's multiplicities, shifting architectural practice to be more attuned to the intersecting dynamics of various fluxes. This architecture does not aim to solve the problems of the time but instead offers approaches for addressing them, recognising that all elements are constantly undergoing change. This leads to the creation of new distinctions that are neither fixed nor predetermined.

Exploring this 'softness' contributes to perceiving the world through its unstable and temporary material dimensions, thereby resisting stupidity.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

This article is based on ongoing PhD research titled 'Architecture as an Open Field of Interactions' conducted under the supervision of the thesis advisor Prof. Dr. Ayşe Şentürer in the Architectural Design PhD Programme in the graduate school at Istanbul Technical University.

1. Rachel Armstrong, *Experimental Architecture: Designing the Unknown* (London: Routledge, 2019), 45.
2. Andrej Radman, *Ecologies of Architecture* (London: Bloomsbury, 2022), 6.
3. Ibid.
4. Peg Rawes, ed., *Relational Architectural Ecologies: Architecture, Nature and Subjectivity* (London: Routledge, 2013), 3–11.
5. Rachel Armstrong, *Soft Living Architecture: An Alternative View of Bio-Informed Practice* (London: Bloomsbury, 2020), 67.
6. Ibid.
7. Reza Negarestani, 'Frontiers of Manipulation', in *Speculations on Anonymous Materials*, ed. Susanne Pfeffer (Berlin: Sternberg Press, 2014), 201–14.
8. Andrés Jaque, 'The Dissident Architect: Reflections on Multimedia, Transscalar, and Transspecies Architecture', *KoozArch*, 19 November 2022, <https://koozarch.com/interviews/the-dissident-architect-andres-jaque-reflections-on-multimedia-transscalar-and-transspecies-architecture>
9. Ibid.
10. Gilbert Simondon, *Individuation in Light of Notions of Form and Information*, trans. Taylor Adkins (Minneapolis: University of Minnesota Press, 2020 [1964]).
11. Armstrong, *Experimental Architecture*, 45.
12. Isabelle Stengers, *Cosmopolitics* (Vol. 1) (Minneapolis: University of Minnesota Press, 2010).
13. Isabelle Stengers et al., In *Catastrophic Times: Resisting the Coming Barbarism* (London: Open Humanities Press, 2015), 98.
14. Stengers, In *Catastrophic Times*, 117.
15. Ibid.
16. Ibid.
17. Stengers, *Cosmopolitics*, 29–30.

18. Serres advocates for the parallel development of scientific, philosophical, and literary fields, challenging the prevalent notion of two separate cultures – scientific and humanist – that are thought to be incapable of communicating. Instead, he seeks to establish corridors of communication between these domains. His goal is not to create direct relationships between different fields, mix philosophical and scientific content, or discover analogies, but rather to explore conditions that enable the most inclusive communication possible through a series of interventions and transformations. Michel Serres, *Hermes: Literature, Science, Philosophy*, various translators, ed. Josué V. Harari and David F. Bell (Baltimore: The Johns Hopkins University Press, 1982).
19. Isabelle Stengers, 'Thinking Life: The Problem Has Changed', in *Posthumous Life: Theorizing Beyond the Posthuman*, ed. Claire Colebrook (New York: Columbia University Press, 2017), 325–38.
20. Ibid.
21. Andrej Radman, 'Generalised Chromaticism: The Ecologisation of Architecture', *The Journal of Architecture* 27, no. 4 (2022): 520, <https://doi.org/10.1080/13602365.2022.2122070>.
22. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 97.
23. Rachel Armstrong, 'Living Architecture', *Interalia Magazine*, July 2017, <https://www.interaliamag.org/interviews/rachel-armstrong-living-architecture/>.
24. Armstrong, *Soft Living Architecture*, 18.
25. Lars Spuybroek, 'Matter and Image: The Pharmacology of Architecture', *Architectural Intelligence* 2, no. 1 (2023), 2.
26. Ibid., 3.
27. Ibid.
28. Ibid.
29. Ibid., 12.
30. Simondon, *Individuation in Light*.
31. Gilbert Simondon, *On the Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis, MN: Univocal, 2017), 248.
32. Ibid., 249.
33. Mariam Fraser, Celia Lury, and Sarah Kember, *Inventive Life: Approaches to the New Vitalism* (London: Routledge, 2006), 1–14.
34. Peter N. Kugler and Robert E. Shaw, 'Symmetry and Symmetry-Breaking in Thermodynamic and Epistemic Engines: A Coupling of First and Second Laws', in *Synergetics of Cognition: Proceedings of the International Symposium at Schloß Elmau, Bavaria, June 4–8, 1989* (Berlin: Springer Berlin Heidelberg, 1990), 296–331.
35. Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos*, trans. Sheridan Flavin (New York: Bantam Books, 1984).
36. Zachary Horton, *The Cosmic Zoom: Scale, Knowledge, and Mediation* (Chicago: University of Chicago Press, 2021), 12–13.
37. Ibid.
38. Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter* (Durham, NC: Duke University Press, 2007), 245.
39. Armstrong works with Experimental Architecture Group (EAG), 'which is introduced as a research practice capable of developing alternative architectural paradigms by redefining the materials, tools and limits of the field. The specific approach of the ... EAG is also outlined as a research practice that sets out to enable the transition from an industrial towards an ecological era, by developing a set of approaches capable of addressing "wicked" challenges'. Armstrong, *Experimental Architecture*, 39.
40. Armstrong, 'Living Architecture'.
41. Armstrong, *Soft Living Architecture*, 90.
42. Rachel Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting', *Architectural Design* 81, no. 2 (2011): 72.
43. Ibid.
44. Larry A. Moran, 'Good Science Writers: Richard Lewontin', *Sandwalk* blog, 3 July 2008, <http://sandwalk.blogspot.co.uk/2008/07/good-science-writersrichard-lewontin.html>, cited in Rachel Armstrong, *Vibrant Architecture: Matter as a Coder of Living Structures* (Berlin: De Gruyter Open, 2015), 77.
45. Armstrong, 'Living Architecture'.
46. Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting', 72.
47. Rachel Armstrong and Robert Hughes, *The Art of Experiment: Post-pandemic Knowledge Practices for 21st Century Architecture and Design* (London: Taylor & Francis, 2020), 1–5.
48. Rachel Armstrong, Robert Hughes and Stefano Ferracina, 'Monsterring: A Transdisciplinary Method for an Unstable World', *Palgrave Communications* 6, no. 1 (2020): 1–7.
49. Rachel Armstrong, *Vibrant Architecture*, 5.
50. Armstrong, *Soft Living Architecture*, 43.
51. Ibid., 25.
52. Ibid., 23; Armstrong, *Experimental Architecture*, 49.
53. 'Partner Profiles', *Living Architecture* website, <https://livingarchitecture-h2020.eu/partner-profiles/>.
54. Philip Beesley and Rachel Armstrong, 'Soil and Protoplasm: The Hylozoic Ground Project', *Architectural Design* 81, no. 2 (2011): 78–89.
55. Ibid.
56. Armstrong, *Vibrant Architecture*, 182.
57. Armstrong, *Soft Living Architecture*, 25.
58. Armstrong, *Experimental Architecture*, 33.
59. Beesley and Armstrong, 'Soil and Protoplasm', 78–89.
60. Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting', 73.
61. Beesley and Armstrong, 'Soil and Protoplasm', 83.
62. 'Objective', *Living Architecture* website, <https://livingarchitecture-h2020.eu/objective/>.
63. Armstrong, *Soft Living Architecture*, 137–39.

64. Ibid.
65. 'Objective', *Living Architecture* website.
66. Armstrong, *Experimental Architecture*, 57.
67. Serres, *Hermes*.
68. Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting', 73.
69. Ibid.
70. Ibid.
71. Neil Spiller and Rachel Armstrong, eds., *Protocell Architecture* (Hoboken, NJ: John Wiley & Sons, 2011), 21.
72. Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting', 73.
73. Ibid., 72.
74. Ibid., 73.
75. Armstrong, *Vibrant Architecture*, 196.
76. *Living Architecture* website.
77. Armstrong, *Experimental Architecture*, 56.
78. Simondon's concept of technicity encompasses the 'margins of indeterminacy'. Simondon suggests that we see buildings and machines not as predetermined operations but as constructions that should not be perceived as closed systems, emphasising the need to see their workings beyond automation. While technicity pertains to the relationship between technology and humans, Simondon extends this to architecture, arguing for the construction of open structures (machines) that include this indeterminacy. Gökhan Kodalak and Stavros Kousoulas, 'Simondoniana: Essays by Kodalak and Kousoulas, with Mutual Responses', *Footprint* 30 (2022): 3–21.
79. Armstrong, *Soft Living Architecture*, 25.
80. Armstrong, *Vibrant Architecture*, 183.
81. Armstrong, *Soft Living Architecture*, 25.
82. Armstrong, *Vibrant Architecture*, 183.
83. Armstrong, *Soft Living Architecture*, 7.
84. Armstrong, 'Living Architecture'.
85. Ibid.
86. Ibid.
87. Ibid.
88. Armstrong, *Soft Living Architecture*, 2.
89. Ibid., 37.
90. Armstrong, *Experimental Architecture*, 63.
91. Ibid., 56.
92. Armstrong, 'How Protocells Can Make "Stuff" Much More Interesting'.
93. Armstrong, *Experimental Architecture*, 33.
94. Armstrong, *Soft Living Architecture*, 137.
95. Ibid.

Biography

Eda Yeyman is a PhD candidate in architectural design at Istanbul Technical University (ITU). She is also a teaching assistant at MEF University, where she teaches design studios and courses in the undergraduate architectural design programme. She graduated from ITU and completed her master's degree at the University of Pennsylvania with a Fulbright scholarship. She has worked as a teaching assistant in architectural project studios at both the University of Pennsylvania and the University of Michigan. She has participated in several architectural design competitions and received awards, most recently with the architecture collective 'The Unhuman', which focuses on speculative and research-oriented architectural projects. Her PhD research explores intersections of alternative architectural practices, interscalar conditions in architecture, posthumanism and experimental architecture.

Ayşe Sentürer is a professor of architecture at the Istanbul Technical University. She teaches architectural design studios and diploma projects at the undergraduate school and gives courses and supervises theses at the architectural design graduate programme. She conducts research at the intersection of architectural theory, design and criticism, including representation and aesthetics. She has participated in numerous conferences, panels, exhibitions and received awards. Apart from ITU, she has run architectural design studios and participated in juries in various countries such as the US, the UK, Germany, France, Hong Kong and Portugal, as well as at schools including Harvard GSD, New School: Parsons School of Design, the AA, Brandenburg TU-Cottbus, and RMIT (Royal Melbourne Institute of Technology). She has written articles on architecture, architectural, urban and rural design, and education.

Where Lies the Problem?

On the Determination of Belief, Political-Libidinal Proletarianisation and Alter-Automation

Justus Schäfer

Independent researcher, the Netherlands

Corresponding Author Mail

schaefer.justus@gmail.com

ORCID

Justus Schäfer <https://orcid.org/0009-0006-1516-8668>

How to Cite

Justus Schäfer, 'Where Lies the Problem? On the Determination of Belief, Political-Libidinal Proletarianisation and Alter-Automation', *Footprint* 36 (2025):75–92, <https://doi.org/10.59490/footprint.19.1.7863>

Submitted 31 March 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

The article addresses the relationality of automation and the political-libidinal literacy of citizens. After contextualising the problem of reactive subjectivity in the Global Northwest of a perpetuating Enlightenment dialectics, the role of technology in the political-libidinal mereology is reevaluated. Drawing from Bernard Stiegler's notion of ter-tial retention and Gregory Bateson's cybernetic theory, the milieu is reconstituted as a plane of transversal desire production and collective anticipation. In times of intensifying multiscalar automation, a lacking attunement to surroundings and responsibility, and general proletarianisation, the article argues for the localisation and sense-ablisation of problems to produce didactic environments for trans-individuative politics. Drawing from an ethics of care as a relational mode of thinking-acting, acts of maintenance are investigated in their potential to modulate the increasing imbalance of investment and passivity in urban subjects to foster de-proletarianisation. Drawing from Deleuze and Guattari's schizoanalysis, processes of un-doing and

re-doing are argued to deterritorialise and schizophrenise over-concretised automatons, opening up material conditions to participatory, creative appropriation and repair (collectively referred to as 'alter-automation') to reintroduce critical reflection and political negotiation into our milieus.

Keywords:

Automation, politics, proletarianisation, care, schizoanalysis

Ever since the Club of Rome commissioned the 1972 report *Limits to Growth*, it is evident that the proliferation of power asymmetries, exploitation of labour and resources, streamlining of technological developments, and homogenisation of values that our mode of economy is comprised of not only facilitates but downright necessitates the collapse of our ecosphere.¹ As population growth, on the one side, and an ego- and anthropocentric 'get-it-all' liberalism, on the other, drastically intensify, the enslaving and exploitation of Adam (the calculable cyborg subject) and Gaia (the finite but exploitable planet earth) are pushed to an extreme. While the discrediting of a proliferating nihilism and the looming emergence of climate terrorism, alongside the question of their reasonability, reap all our attention (they are not productive, but reasonable nonetheless), few show the intent to incite substantial change. On the contrary: harmful economic, social and political paradigms are actively maintained, intensifying existing hegemonies and streamlining the diverse multiplicity of practices, values and species that is left, while keeping everybody 'calm enough to carry on' as if in a Second World War propaganda campaign.²

In the current globalised political apparatus, we experience the surge of the ultraliberal, (micro-)fascist subject, having emerged from the convergence of consumerism and a history of individualist propaganda (as a conceptual extension of the anthropocentric world view) that has been funding the epoch of industrial revolution (*Umwälzung*)

in general.³ In the meantime, the boom of right-wing Politics (capital 'P'), essentially non-distinguishable from the economic fortification of the neo-liberal subject, results in the fragmentation of a global political response-ability.⁴ What we are facing is a highly fragmented global society fore-fronting individual security against a global(ised) set of economic, ecological and socio-political challenges that are co-constitutive of each other. The normalisation and intensification of ultraliberal and the far-right individualism via echo-chambers and filter bubbles results in a consolidation of a political spectrum which is fuelling lobbying across the global capitalist process, reactively polarising, and inhibiting change.⁵

There is no doubt that to effectively tackle the global challenges we are facing, truly collective efforts are necessary. What is required is a fundamental transmutation of potestas to potentia when it comes to the production of knowledges and values as well as our modes of political enunciation to allow for more diverse evaluation of decisions and the processes they emerge from, based on collectively formulated, multi-faceted reasoning.⁶ Circumventing the commensurability-compulsion of the dominant value system appears fundamental if one desires to refrain from the possibility for detournement of originally commendable efforts for private profit motives. If one aims for individual and collective capacities for fabulation on resilient modes of becoming, a critical reflection on the conditions of value production is needed. This brings us to ask: Where, in the evolution of our socio-political mereology lie crucial turning points that constitute harmful and determinate paradigms of valuation?⁷ How might we, as individuals or collectives, recalibrate this reactive subjectivity that 'modernity' has been embedding into our collective codes? In short: how might we do politics?

First, I will have to render a definition of politics that allows for us to venture from biased and conditioned opinions. Martin Heidegger, in *Being and Time*, defines his notion of *Mitsein* (being-with) – arguably the underlying condition of politics – as a fundamental constituent of the *Dasein* (being-there). Subjectivity and existence, for Heidegger and his scholars, is always situated and contextual (socially, temporally and spatially), bringing to our attention the entanglement of our individual existence with matters of togetherness. Within the framework of this article, politics will be understood as the coming together of *Mitsein* and *Dasein*. It is rendered as the process of organising individuals and their inter-relation, as well as the formulation and overcoming of problems that one cannot overcome by oneself. This will ask of us to delve into the mereological relations of individual and collective, desire and its repression, and the norms and belief systems that

make up or inform constraint regimes which in turn tie desiring individuals together. In a struggle for a new politics, we have to rethink the epistemological and ontological foundations that gave rise to the disarming, dogmatic and consumption-oriented political organisation we find ourselves in today. Politics, as a fundamental characteristic of humanity, does not refer to a part-crisis of a globally entangled catastrophe, but as a framework that both allowed for this situation to emerge and holds potential for change.

As a more specific concern, I will focus on the representative politics dominant in the Global West; assuming that elections are fair, equal and free, representatives are appointed in a four to five-year cycle to govern federal and national states via legislations that modulate with juridical institutions and executive powers. Every few years the law-abiding citizen casts a ballot in favour of a representative party or individual based on a publicised political agenda and its overlap with the citizen's desires. Proportionately convened members of a parliament negotiate their respective agendas to come to a consensus; if a majority is in favour of change, laws are passed, budgets are (re)directed and policies are adjusted. As the respective political programmes vary, these adjustments generally demand watering down to achieve accord.

This constant pursuit of consensus, however, appears to be more paralysing than productive and becomes a-representative of its subjects as it abstracts the multiplicity of individual desires and needs into generalised political party programs. Theoretically, the quasi-absence of productive differences in politics – political programmes are adjusted and largely conservative due to the necessity to comply with the largest public body possible during election periods – pushes decision making processes into a limbo of minimal resonance. Practically, it results in artificial harmonisation and normalisation of thought, desire, creativity and so on to find an 'agreeable middle'. An overwhelming inertia in changing a system or content is what enables the respective representative's professional positions and payslips. The politician is not tied to their programme but, rather, is repercussed in the subsequent election period by loss of voters if they do not deliver what was promised, resulting in the moderation of promises to begin with to ensure self-perpetuation. The borrowed consent from citizens to intervene with jurisdictions and policies legitimises the government.

It appears, thus, that the current political apparatus is set to absolve its subjects from the responsibility for participation in problem forming and negotiation. It is therefore urgent to search for modes of living that potentially open up the reactive subjectivity that underlies the dominant a-significant polarisation of individuals and allow for a response-able productive dissent.

The enlightened condition: dialectic thinking and the crisis of value

What is, then, the modern condition that appears to interlace every exchange executed, board meeting held, scientific research commissioned, and amicable deliberation conducted? To answer this, we will look back to a time before the separation of the ineffable and the undeniable, trace the tectonic shift from religious to secular values, and examine its political consequences from the current day vantage point – we look back to the Enlightenment. As philosopher Yuk Hui posits in his 2019 article ‘What Begins after the End of the Enlightenment’: ‘Enlightenment was not simply an intellectual movement promoting reason and rationality, but also a fundamentally political movement. Navigational and military technology allowed European powers to colonise the world, leading to what we now call globalisation.’⁸ The prior crusade of the exchange-value-system {e} in the West, which was forcibly imposed on other cultures over the course of colonial expansion, over-coded alternate valuations in the affected societies and eradicated economic relations based on gifting, sharing or other non-profit modes of exchanging and organising material flows. The commensurability-compulsion {f(e)}, the inevitably perpetual value-abstraction of disparate entities X and Y that is fundamental to market economies is internalised by their subjects, destabilising valuations based on use, care and surplus life. What is striking about Hui’s analysis is that not capital, but the underlying exchangeability of incommensurable values is both first move and endgame of the colonial-capitalist project. This exchangeability, to this day, allows for resource depletion, speculation, war and (modern day) slavery – it is the tail-end of the anthropocentric conquest of life and it proliferated to a global scale where ‘everything has a price’. The compatible technologies of the time – shipping and food preservation – allowed for the rapid expansion of the capitalist process (capitalisms and their associated milieus) and logos as well as the subsequent global(normal)isation of values, technologies, time and knowledges that it demands.

The suddenly exportable technologies and norms that emerged from this abstraction and rationalisation of life paved the way for the intensification of the monotecnological Enlightenment, the globalised whole with all its neo-colonial connotations, and an entropic ‘global axis of [space]time’.⁹ The ‘modern way’ is fundamentally defined by practices of objectification that emerged from the Enlightenment. It is an organisational principle based on dialectic quantification, commensurability and efficiency. It is the aftermath of what, as artist and writer Patricia Reed points out, changed drastically with Darwin’s theory of evolution: the scientification of other disciplines and the naturalisation of necessities that ultimately, are relative, yet

reify biased interpretations of contextual data as universal, alethic necessities.¹⁰ As Yuk Hui puts it: ‘the real necessity is only a relative necessity ... It is relative because if we ask why A is necessary, it is because B and C are its conditions.’¹¹

The beliefs we submit to and the necessities we deduce from them are by no means objective truths, but context-dependent constraints that only due to the artificial separation of logical scales appear independent.¹² Context prefigures the possible and primes the real with tendencies for certain outcomes. From this constituted possibility space, philosopher Alicia Juarrero deduces that ‘context dependence is not subjective; it is objective, but relational – and induced by constraints.’¹³

Given the dominance of its specific, perpetuating logos, the term ‘modern way’ is more accurately replaced by the term ‘enlightened condition’. It is the proliferation and reproduction of the commensurability-compulsion that, for reasons of efficiency (cheap labour, cheap nature) necessitates globally tradable norms and values and the processual gridding of life into digital (binary) distinctions depending on an artificial objectivity that is determined by the agreement of governmental and scientific institutions.

Although there undeniably are earlier moments in human history marking monumental bifurcations that imply efficiency qua normalisation (for example, the domestication of crops), the norms that the Enlightenment produced seem crucial for the sustenance of urban conditions, hence allowing us to address the question of whether said norms are beneficial for urban contexts and politics. To counter the impending homogeneous heat death that the Hui’s global axis of time suggests, to localise and singularise value, philosopher Brian Massumi urges us to ‘uncouple value from quantification’ and return to a use-value distinction {u}.¹⁴ This includes the reframing of systems as processes, turning away from the analysis of finite frameworks and understanding the entangled workings of Gaia and Adam as the close correlation and contamination of subject and object, the immanent outside and the fuelling of, ingestion into, or disruption of a delineated system.¹⁵

As the technological phyla of communication and entertainment evolved into social media, streaming services and anonymous online forums, the gridding of values, equivalent to the process of scientification during the Enlightenment, now extends its fibrous infrastructure to the calculation and abstraction of our libidinal investments in marketing and consumption functions, a process that over the course of this article will be understood as determinate grammatisation. The determinate abstraction of libidinal investments towards a globalised, commodifiable resource urges us to find new practices to gain back control over the political-libidinal-complex that is necessary for contingent

desiring, productive dissent and the implementation of politics that assist in trans-individuation. In this article I seek to investigate practices of collective care as a fundamentally situated (countering global normalisation), perpetually maintained and emergent (countering the finite dialectics of the enlightened condition) and potentially just (countering representative modes of politics) engagement that allow us to learn to problematise the coming together of individual, technology and collective. Three core terms are relevant for the further understanding: desire, care and belief.

The Deleuzian notion of desire describes an excess of libidinal energy (\neq lack of X).¹⁶ It defines the intentions of the individual and therefore informs the social. It is a 'more basic political concept than power' and is the driving force for becoming, while simultaneously organising systems of repression, as multiple desiring subjects jostle.¹⁷

Care is an axiological attentiveness to fragility and an attunement to one's surroundings.¹⁸ It is closely related to practices of maintenance and is product and producer of sense-ability (the ability to sense). Care requires perpetual engagement and high energetic investment for low immediate gratification. It is itself a revaluation of currently un(der)valued labour and is practiced in relation to our social and material environments.

Belief is a constructed, non-alethic universe of reference that informs individual desires and their modes of expression.¹⁹ Social codes, value systems (for example, {e} or {u}) and political responsibilities fall under this – just as much as religious and other spiritual universes of reference do.

Architecture of politics

As the architectural profession is concerned with the manipulation of constraints within the technological milieu (for example the built environment) that serves as a plane of individuation, the designer's capacity to intervene with the becoming of politics is evident. Hands-on implementations of equitable ambitions, however, often regress to struggles of participation and inclusion that merely re-enforce dichotomies between planners and users, human and non-human, or nature and culture, resulting in the reproduction of established power-relations or, at best, a slight shift in Cartesian subject/object definitions that are ultimately incapable of performing differently than the processes and dialectics they emerged from. Possibly shifting the issues at hand, these struggles are absorbed by the capitalist process and turned against substantial change in the (re)valuation of value. It is crucial to abstain from molar structures – due to their tendency to function according to the dialectic logic of the enlightened condition and the resulting mono-technological globalisation – and to concern ourselves with local, molecular frameworks to organise togetherness that are not bound to repeat the relation of an oppressive entity

X and oppressed entity Y via determinate grammatisation.²⁰

As theoreticians within and outside the architectural field are uncovering the potential of collective practices (for example, commoning), we ought to underline their political capacities and their potential to aid in processes of trans-individuation and the proliferation of potentials and information. Sharing our stocks of energetic and material flows as well as their administration, and, with it, sharing responsibility for their maintenance and determination not only necessitates individual engagement with external and political matters, but requires the careful investment of libidinal and kinetic energy in the intensive bonds that constitute the material conditions they are entangled with.²¹

In search of a politics that can assist in response-able trans-individuation we then have to ask: How can practices of collective care – as modes of spatial and social engagement that intervene with the (preindividual) milieu via productive dissent – liberate desire from determinate grammatisation and aid in the individual's capacity to problematise their own coming together with a respective socius?²² How do dominant systems of belief determine our desires? How and why might an individual (change their beliefs to) participate in the formulation and overcoming of problems via the engagement with their surroundings? And how does technology (such as the built environment) correlate with the production and maintenance of beliefs?

Determinate grammatisation

The determinate grammatisation to which the capitalist process subjugates subjectivity regulates the societal engagement in productive political assemblages, what philosopher Bernard Stiegler came to describe as 'symbolic misery'. The 'loss of individuation that results from the loss of participation in the production of symbols [meanings, values]' is taking shape as the hypersynchronisation of the subject and a continuous alienation from contingent desiring-production.²³ This dissociation from its symbolic, desiring dimension entails the emergence of subjects that are incapable of informing political problems or agendas, are incapable of critical positioning and acting in dissent. Stiegler deploys his concept of symbolic misery on the basis of his theory on tertiary retention systems: extending Husserl's notions of primary and secondary retention of information by a third, external memory is what enabled a 'trans-generational process [of] collectively conserving, accumulating and hence perpetually stabilising and transforming lessons of individual experience.'²⁴ Our capacity to transduce detailed knowledge over generations (as opposed to the general knowledge conserved in genetic codes), as externalised (exosomatised) information is what allowed for the evolving of knowledge across the spatio-temporal limitations of the subject. A deprivation of the capacity to

ingest or inform the technological milieu, a lack of access to our environment, equates to the loss of participation as described. Not only does this lack of participation in the production of a collective techno-logos result in the selective determination of causal relations, but it separates the individual from their capacity to form a type of protention (anticipation) in regard to a technological milieu. Without the participatory production of technology and its meaning, a participatory organisation of the respective developmental vector is impossible. As Johannes Schick puts forward, the application of technology is ultimately a practice to provoke a reliable future – if we find a nail, we will look for a hammer. The production of future outcomes thus depends on the intentions of those applying it.²⁵ Technological literacy is key for the capacity to anticipate future outcomes and to problematise or engage in dissent. The animating force that is necessary for anticipation is the intensive difference between an experienced problem and a generated image of the future that emerges from and via applicable technology. The technology of architecture poses constraints that can either facilitate or disallow for future unfoldings, delineating lines of individuation and potential change.

Grammatisation, the abstraction of temporal events or embodied gestures into categorical attractors, reduces consciousness and complex thought to textbooks, manifestos, technical norms, beliefs or user-profiles that are reinterpreted later when internalised and processed.²⁶ The determinacy governing systems of grammatisation that are constituted by the non-alethic necessities we submit to, however, is threatening the production of diverse futures. The targeted manipulation of affects that inform our desiring-complex, a short-circuiting of the pre-individual milieu (and its immanent potential) therefore leads to the (re) production of calculable, plastic desiring subjects.²⁷ The rigidity and prefiguration with which the actualisation of desires is conditioned within the exchange-value system does not allow for contingent, productive trans-individuation, but primes for the homogenisation and turning-a-significant of our libidinal expressions and subjectivity. As media and culture theorist McKenzie Wark elaborates: our tertial protention and ability for contingent and independent desire – independent from marketing stimuli and propaganda functions – is impaired by the absolute pervasion of our lives by a commensurability-compulsion and programming for surplus-value extraction. As the capitalist process is taking charge of our desiring complexes in a loop of financial surplus-oriented grammatisation, we are facing a new level of alienation and proletarianisation on a global scale: we are used to not owning land, we are used to not owning material production, and now we have lost ownership over what is arguably our most intimate capacity: our libidinal investment.²⁸

The making of gods: political organisation and myth-making

The coming together of a desiring subject and a restrictive socius hints at a problem: as part of our effort to crystallise the individual's relation towards its Umwelt (its associated milieu) our evaluation, at least partially, will always remain speculative and imposed. Tracing others' desires and intentions across a milieu that we, as spectators, value differently according to the affordances we can register, can never fully assess the situation. The lens of subjectivity that distorts any arguably objective recording remains. Intervening in the technical normativity that co-constitutes systems of valuation allows us to modify the constructed images that produce collective and individual anticipations, but the individuality of percept and belief persists. It is here that Gregory Bateson's *Cybernetics of the Self* aids us. Reflecting on the psychotropics of alcoholism and the mechanism that Alcoholics Anonymous appropriates to achieve comparably high success rates in curing addiction, Bateson emphasises the relation to an external higher power (for example the bottle or a god) that the bettering of the addict depends on.²⁹ The synopsis of associated system and the mind of the individual, according to Bateson, holds the potential and agency for change.³⁰ [Fig. 1]

The ingenuity in Bateson's observations is that, due to the partial schism of a mind from its associated system, the problem we are concerned with in identifying individual desires is the same problem the individual experiences in the formulation of its own situated desires: as the individual remains incapable of comprehending a rational, objective exterior (whose possible existence does not concern us right now), it generates a myth, fabulation or hallucination to substitute objectivity. Just like we cannot assume superiority over our Umwelt and its causal chain, no one else can. In order to overcome what we might call the limits of the mind, a belief emerges that explains or negotiates inconsistencies. Given that reasoning becomes a product of the reading of one's environment, our best chance to engage with a desiring subject is to engage with the constructed and potentially institutionalised beliefs that it submits to, the restrictions that these beliefs co-constitute, and the question of how we can spatially intervene with the myth-making faculties of humankind that sit on the intersection of intellect (thinking) and instinct (feeling).³¹

Taking a reading of a given political situation via the lens of Bergsonian myth-making, we can identify virtual and actual constraints that affect our engagement and behaviour: social codes and juridical limitations, economic dependencies and value systems are beliefs – non-alethic necessities – that are just as artificial as the bottle or the god are. The emergence of the specific collective belief is ultimately rooted in the political: in order to tap into the

potential that lies in collectivity (and ensured human survival), the grammatisation (institutionalisation) of political opinion and individual intentions has always negotiated parts and wholes. The determinate manipulation of said grammatisation according to surplus value extraction, however, is a more recent phenomenon. The power of grammatisation lies, as such, not in its presence or absence, but in its appropriability. In order to open up politics and make it resilient to the multiplicity that it arguably should organise, we need to become sensible to the intention and intensity behind the abstraction taking place: the appropriation of the abstract goes two ways, one motivated by the manipulation of others (*potestas*), the other by the malleability (interpretability, vagueness) of the sign (*potentia*). Altering ontological relations, altering the constraints that the milieu imposes on individual and collective via relaying affects, modulating the chutes and ridges of the epigenetic landscape that prime future unfoldings and with it the constructed beliefs that govern collectives, we can intervene.

Questioning myth-making, the modulation of desires and emergent norms, and, fundamentally, a resulting (dis) investment, a closer look at the milieu as a substantial co-constitutive of individuation, as an external actor that collaborates with the individual in the formulation and overcoming of problems, a look at the milieu as automation, is necessary.

The automated self: technical normativity and politics

The term 'automation' refers to the outsourcing of energetic investment – kinetic, psychic or otherwise – into technological edifices or systems that are to an extent self-regulating and self-operative, allowing for the mitigation of energetic input that is required to complete a specific task. Although the production of an automaton (unit of automative system) often demands a higher grade of energetic input than the task it aims to automate, automations are investments aiming to minimise later demands and engagement to break free time, material and energy that can in turn be appropriated for other tasks.³² As these automations are characterised by their respective input-to-output-conversion, we lean on cybernetic theory to clarify: what emerged in post-war continental philosophy with figures such as Norbert Wiener and Gregory Bateson, is concerned specifically with the complex feedback loops of affects and expressions (intensities) that produce automations. These auto-corrective systems ultimately are macro-scale cybernetic circuits with their own inputs, outputs and biases. A system or set of constraints and relations thus possesses both, a type of memory (as the constraints it is comprised of are products of previous feedback loops) and a type of consciousness (with preferences and intuitions primed by a designed path of information).³³

Neither the auto-corrective systems that crystallise in systems of automation, nor automatons – what in the Batesonian sense can be understood as a mind – are by any means closed. Bateson reminds us that there is no absolute interiority to a system observed: the feedback loop of outputs and inputs, the mind, only becomes the self (identity, in the Juarrero's sense) once it is situated in a specific context providing stimuli. This applies to both technical artifacts and the individual. Once a subject knows that the information that is necessary to produce a change in the mind (state) is transduced and fundamentally altered by an external condition it passes through, it can occupy its full potential.³⁴ It is the contextuality, porosity and affective nature – the sense-ability – of input and output of a system (for example, an individual or a collective), that determines action.

Let us take the relation of human and hammer as an example: it is constituted by the hammer- and human-ness of each. Without the thing, the individual will not hammer, and neither will the thing without the individual do so. Tilt, force, grip and other variables are dependent on both qualitative values of hammer and human are adapted per blow, depending on the processing of the information from the previous strike. The cross-pollination of identities, emergent potential, degrees of automation and of engagement produces a possibility space of the hammer-human-system. Whether the Batesonian mind or Juarrero's identity – the modulation of entities that make up each others' milieu and systems is what delineates the virtual.

A relational, cybernetic reading of the individual's and collective's embedding in their Umwelt reframes the technological condition of the human as a technological conditioning. Given the rapidly progressing alienation from our technological milieu throughout the industrial age, a consecutive alienation from our libidinal investment via the continuous commodification of affects in the digital turn seems less of a surprising development.

To withdraw from binary dialectics in a revaluation of technological systems, to remain in a relational understanding of individual and collective desires and constraints in gradients, we can draw from the post-structuralist theory of Gilles Deleuze and Félix Guattari. Introduced over the course of their collaboration on the two volumes on Capitalism and Schizophrenia (*Anti-Oedipus*, 1972; *A Thousand Plateaus*, 1980), schizoanalysis implicitly renders the Freudian psychoanalytical approach conceptually instable, as it is deemed fundamentally dogmatic and inert to significant change to the poles that constitute the oedipal relations. It is thus not flexibly applicable and is operating within a cartesian (that is, enlightened) ontology. Schizoanalysis aims to take the schizophrenic, the sick, out of their repressive milieu: in and of itself schizophrenia is

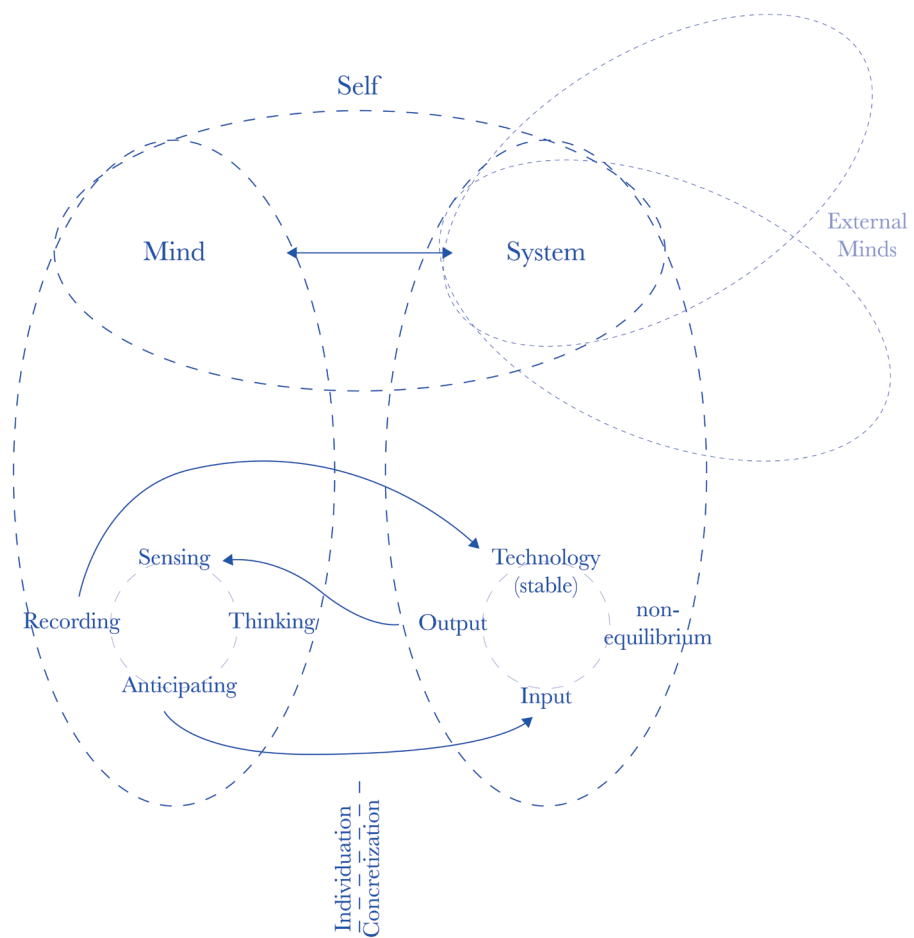


Fig. 1: The cybernetics of the self, based on Gregory Bateson's Steps to an Ecology of Mind. Diagram: author.

not condemned, but rather understood as a potential. The schizophrenic has the 'the ability to constantly break free from the dominant emotional controls'.³⁵ As a condition the schizoid 'not-making-sense', as opposed to the paranoid 'making-too-much-sense', allows for the recording of paradox within the socio-political framework and semiotic inconsistencies. The schizophrenic becomes 'sick' only as they are confronted with oppressive apparatuses, such as social norms and psychotherapeutic clinics, and withdraw into a catatonic state. As a machinic – rather than structural – process, desiring-production and social-production become inextricably linked to each other.³⁶ The schisms (breaks) in the case of an analysis of the synapses of individual and collective are the contradictions immanent to the multiplicity of desiring subjects themselves.

Applying this to the workings of dominant, non-productive systems of belief, value and desire via a counter-cartographic approach, we can render visible the abstract effect of technological and political systems that shape our milieus. As an anti-methodological approach of unlearning a qualitative-quantitative binary it acknowledges the irrationality of rationality (and vice versa) as a potential for reframing the value ethics that co-constitute politics. The same way that Guattari continues to elaborate on schizoanalysis in his later works, the reciprocal effects of technology (Φ), universes of reference (U), existential territories (T), and flows (F) need to be taken into consideration.³⁷ [Fig. 2]

On the scale of the individual, the intensifying degree of automation destabilises original problems in the milieu and gives rise to alienation. Problems that demand energetic investment are outsourced beyond a sensible environment and depend on global and local infrastructures that facilitate the transduction of energy between and drawing of energy from systems external to the individual. In the complexity, physical opacity and distance of said infrastructures, original problems become illegible and incognisable – ultimately not-problematisable – for the individual. We begin to believe we are dependent (on the) particular automaton without critical reflection. [Fig. 3]

On a collective scale, determinate grammatisation is exerted by techno-systemic tendencies and designed paths of information, constraining individual libidinal and energetic investment into the production of and care for a participatory politics. Alongside the alleviation of political responsibility stated above, digital grammatisation, which feeds algorithmic control over libidinal investment, amplifies individual alienation from the product (environment) and solidifies a technofeudalist system that gains control over the political apparatus. Schematic cuts in flows of information (F), however, always emerge from and with very real spatial and material implications (T, Φ) in the form of infrastructures, architectures, and urban and regional

planning, among others. The perpetuation of passivity – the lack of investment due to automation – is ensured by the aspiration to 'efficiency' (U) and catering to the self-sufficient ego. [Fig. 4]

We can view the problem of reactive subjectivity in a new light: if automation via technology is the base condition for both our libidinal and cognitive alienation and disinvestment, we might need to reassess technology regarding the quality of said automations. It seems that within the enlightened condition, technological phyla accelerated towards a concretisation that not only renders the technological artifact itself too fragile to adapt to unforeseen circumstances and inputs, but renders us incapable of engaging with the original problem the artifact is attempting to 'solve'. We need to reassess what we deem productive and unproductive technologies, what we deem 'working' and 'broken', in order to tackle the abstract determination and grammatisation of desires and capacities that is framing our political and societal engagement. If 'norms and values are continuously produced negentropically' (malleable myths in the Batesonian sense), just as much as the material conditions that they emerge with, decay and dis-assemblage might just be a way to address cybernetic systems of grammatisation, monopolisation, alienation and proletarianisation.³⁸

The hard way: alter-automation and care

Both, decay and dis-assemblage, are deterritorialising modulations of material relations. To avoid absolute chaos, however, life is a process of organising, maintaining and caring for things to counter this heat death. This project of life, the neganthropological project, as formulated by the late Bernard Stiegler, is developed from Martin Heidegger's neologism of *pænsée* (penser/thinking + panser/caring). The epiphylogenetic (tertiary) memory that is technology holds a crucial role in potentialising and stimulating the caring of a desiring individual, according to Stiegler:

It is for this reason that the noetic soul ... is a struggle of tendencies: this soul's potential for elevation depends on the desire to know, requiring the constant undertaking of practices of care and learning made possible by exteriorised memory.³⁹

Our capacity for (trans-)individuation thus depends on our ability to inscribe and retain information from the tertiary retention system that is our environment.⁴⁰ As the enlightened condition imposed a 'bifurcation of nature that splits feelings, meanings and the like from hard-core facts', a re-naturalisation of our relation to our tertiary retention is necessary to achieve de-alienation.⁴¹ A shift in the understanding of the scientific and technological assemblage, away from the object towards a notion that implies the

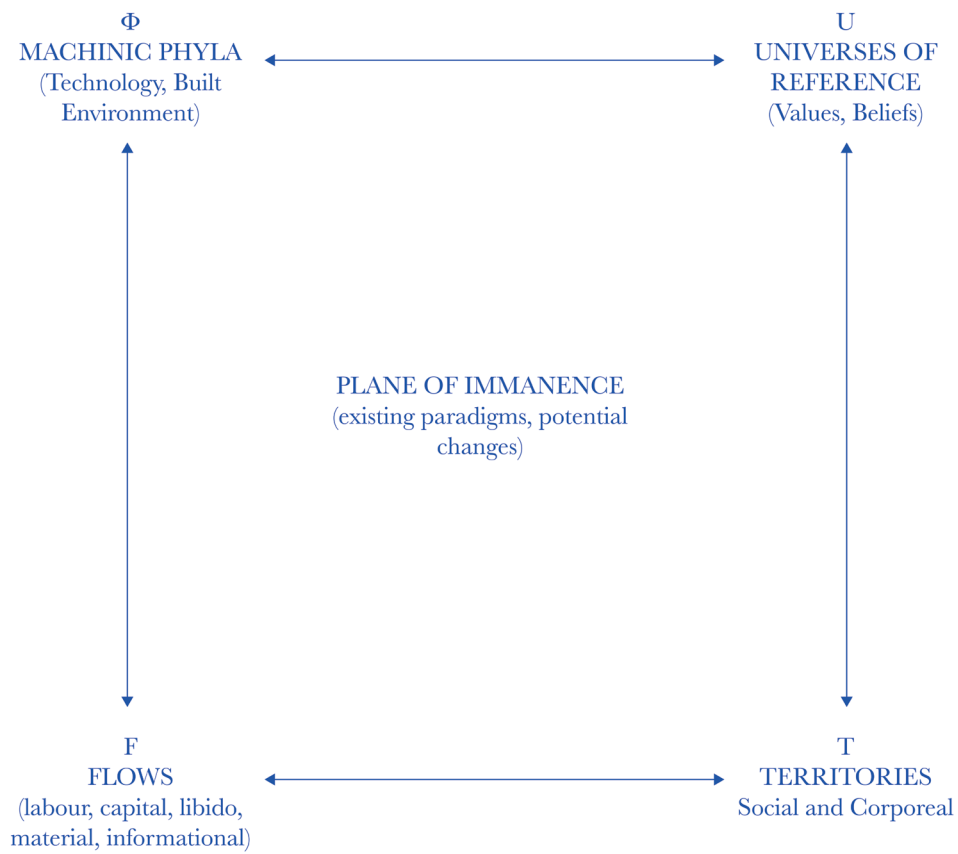


Fig. 2: Plane of immanence, based on Guattari's *Schizoanalytic Cartography*. Diagram: author.

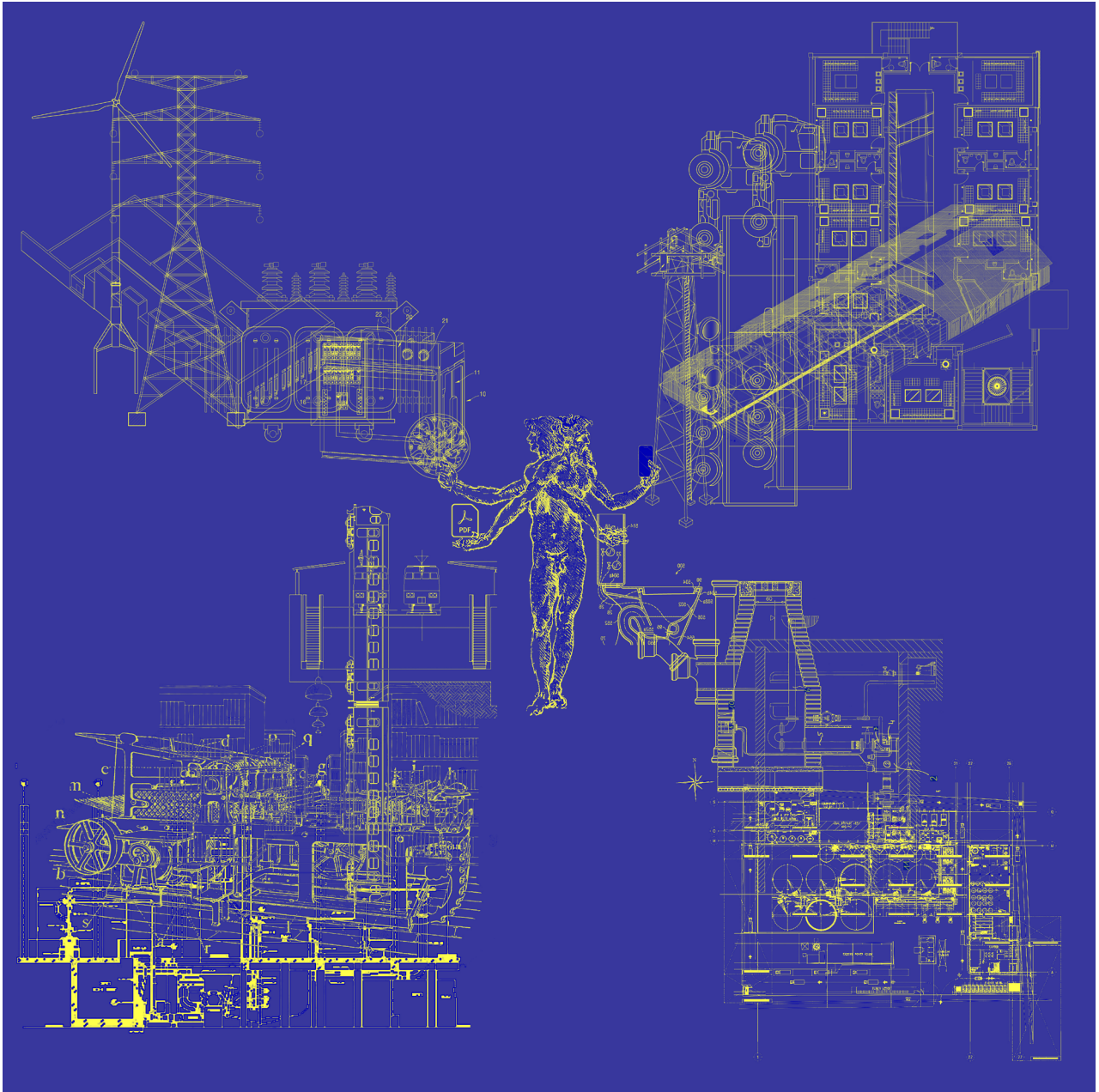


Fig. 3: The automated self: concealment of problems and supply chains in technological devices. As the distance between individual and problem expands (physically, cognitively...), sequential automation networks become progressively less sensible, legible, comprehensible and problematisable. Illustration: author.

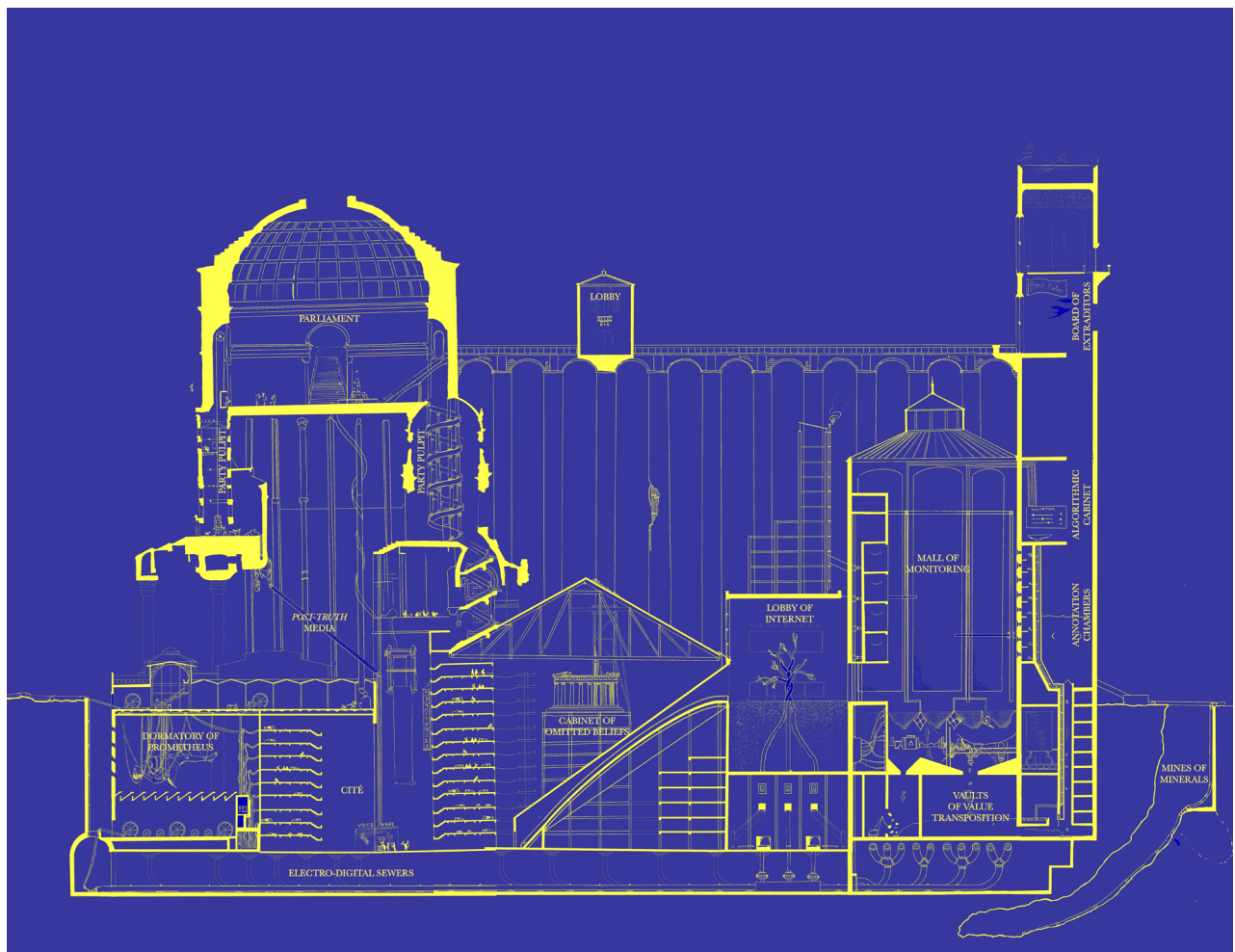


Fig. 4: The automated abstraction machine: determinate grammatisation and systemic alienation due to politico-economic monopolies. These emerge from material conditions, expressed by architectural references. Distances, opacities and inaccessibilities, as well as cybernetic and schematic relations are depicted. Illustration: author.

social and political interest that said assemblage emerges from, demands that we be more careful in its production.⁴²

Care and maintenance are often understood as interchangeable. It is important, however, to make the distinction between maintenance – an act of care and a recurring praxis of exchanging energetic flows (the body of the worker is worn out by the act of maintaining) – and care as an axiological attentiveness to fragility, an attunement to one's surroundings.

The act of maintaining is geared towards sustaining stability. One that maintains seeks to re-stabilise an object of discussion in functioning, condition or time. Maintenance, a negentropic force per definition, aims to counter the natural decay and dispersion of energy, materials, relationships, systems – according to the second law of thermodynamics, virtually everything.⁴³ Although this negentropic struggle is only partially successful in restoring a preceding status quo, it is important to note that the underlying motivation is the sustaining of a given set of relations and distributions, a reproduction of condition X. The prolonging of material life spans, relationships and so on (systems) limits the amount of energy that is needed to produce the original system by regularly injecting small amounts to avoid a drastic non-equilibrium between the original and the actual. In avoiding further resource depletion and transformation and tying sentiments of (re)production to the existing it is producing value and discarding discard and surplus value extraction along the way. The greatest potential of maintenance, however, lies in its inability to ever fulfil its purpose properly: constraints will never be the same outside of the laboratory; once a micro-repair has been conducted, 'times have changed'. The maintained is hence subject to recursivity that, along its looping on itself, modulates with contingent events and changes. The maintained, no matter how dedicated the layman, skilled the artisan, or intellectual the engineer, will never be the same. The constraints that maintenance is not apt to overcome are the ones that the inevitable progression of time enforces.

Care, on the other hand, is a perpetual praxis that evokes maintenance. Whether someone cares exclusively for their own benefit or for what lies beyond their comprehension and compassion (the latter of which could arguably be describes as a 'good nature') is a qualitative difference in caring. An awareness of fragility and context, however, is fundamental to caring.⁴⁴ The ability to care is what we are concerned with if we are to open up to each other, demanding a shift in the ethical paradigm. To foster an ethics of care is to foster one's sensibility to sound, touch, taste, sight and smell, to emotions of attraction and repulsion, of liberty and constraint, and as sense-ability, it is a thinking-in-affects. It is a process that involves

objective judgement as much as emotional capacities, potentially reintegrating fact and belief in a post-enlightenment society.

The origins of an ethics of care can be traced back to feminist and environmental ethicists in the 1980s. Carol Gilligan, considered as one of the originators of the ethical theory, reacts in her 1982 book *A Different Voice* to the normative psychological theory of Lawrence Kohlberg's Stages of Moral Development of children. Gilligan criticises the Heinz Test's grammatisation and biased evaluation of moral development for what we can now call this the test's enlightened conditioning.⁴⁵ Kohlberg's theory valued the capacity to solve moral dilemmas on the spot via an almost mathematical evaluation of an immediate lesser evil, disregarding the 'narrative of relationships that extends over time'.⁴⁶ The test was primed to prefer a historically conditioned male perspective of 'rational problem solving' and abstraction of value, overseeing the potential and critical relevance of an attunement to fragility and the unfolding of long-term developments. This split of fact and emotion, of observation and relation, has been dominating ethico-political paradigms for centuries. To be equipped to respond to the entangled complexity of crises, to allow for a politics of trans-individuation, the relational thinking of an ethics of care, of a feminist ethics, is key to destratifying the ethicopoietical schism. The situatedness that an ethics of care demands, reinforces my claim: the entanglements and affects rendered visible by an analysis or design must always be of a molecular nature, acting on the level of the trans-individual, the milieu and the *Mitsein*, the intersection of the desiring subject with the socius, and the actualisation of 'technological assemblages [that] are not just objects but knots of social and political interests'.⁴⁷

Furthermore, an ethics of care assists us on the front of grammatisation: the desiring-machine, plugged into the sense-machines, plugged into the memory-machine ultimately leads us back to the desiring-complex being its own gauge valve: the inevitable abstraction that takes place within the desiring-complex (and in the transduction of information between the machines) results in presuppositions and selective sensing constituted by an external regime of desire (run by other desiring-machines).⁴⁸ Desiring begins to desire its own repression as it encounters the social-machine. The multiplicity of desiring individuals and collectives problematises desire and the grammatisation of affects. Once an understanding of the differently desiring subjects under similar constraints is developed, an understanding of desire production, grammatisation and, specifically, determinate grammatisation by external entities that alter desire production and transmission, can be developed.

To allow for the transmitters of this transversal desire to be liberated from de-valuation (transposition into {e})

and determinate grammatisation), we ought to find ways to affectively and inductively problematise subjectivity on a level that is situated between the individual and the collective, on the level of the transmission and territorial retention, on the level of the milieu (literally 'middle ground' in French). Gerald Raunig's definition of the *dividual*, the inherently situated individual that, without its context, simply is not, seems appropriate. The notion of the *dividual*, however, reconfigures our conception of assemblages, shifting actor-network-theory closer to the problem of the one and the many as it stresses the equivalence in importance of both part, whole, and (specifically) their relation. The answer to avoiding the short-circuiting of trans-individuation and of desiring-production by external regimes lies in the de- and re-fragmentation of the dissemblage, which consists of metastable relations, perpetually transforming, transgressing and transposing.⁴⁹ Significant and embodied experiences that potentially break from the alienated subject always affect the *dividual*. Acts of care that re-integrate producer and product, situated right at the intersection of desire and politics, individual and collective, of mind and system, can then occupy the role of our myth-making faculty. It seems that only an overly intensive engagement with the material, social and ecological milieu, a 'maximum effort, minimum reward' attitude that does not rely on the outsourcing of energetic investment which a monotecnological globalism cultivated, is as productive for the de-alienation from our technological milieus, as they are for the emergence of a politics of trans-individuation. The break-down of a political economy that produces a metabolic rift between the libidinal economy and the available fulfilment of desires (which barely potentialises the production of {u}), a rift from which a type of *dividual* synaptic economy can emerge, is necessary.⁵⁰ It demands automating-otherwise, automating-together and automating-with, an altering of our relationship with our tools and environments. We need to question which tools (the glass, the spanner, the house, the infrastructure) serve the purpose of becoming, and which ones ultimately produce their own ends. In short: we need a Thesian ship that has no professionals to fix it for us, but which demands that we do it ourselves – as bricoleurs.⁵¹

Breaking things that work: the bricoleur and productive Luddism

As we look towards the working automata that cause the hyper-alienation of subjects, we ought to take into consideration the varying scales at which these are at work. The automated economic and political system that serve as the framework for this article and are generally considered to

be working, are only doing so for and towards a certain outcome of a predefined scope. As a machine, they work towards what they are intended to work towards, insensible to other complications, problems and potential damages, insensible to contingent information. Similarly, with the small-scale automata that make up our immediate surroundings, ranging from smartphones to power tools to the arguably banal flushing toilet, the immediacy of gratification continues to intensify – in a trade-off for potentialising use value.⁵² The concretised machine, poorly suited to absorbing contingent events, reveals itself to be unproductive on a larger temporal scale, reproducing events, at best.

The reason for the ease with which we engage in such automations is plain biological conditioning. The conservation of energy and its carrier molecule adenosine triphosphate (ATP), which fuels our bodies and brains, allows for a reliable anticipation of a future in which the metabolism does not come to an abrupt stop. The less energy we spend, the better. As care and maintenance are practices that fundamentally challenge the workings of surplus value {e} production that aims to cater to this attitude, we can understand why their practice is productive: their value lies not in the reactive conservation of ATP but the conservation and proliferation of transindividual potentials over a long-term unfolding of events, much like Gilligan argued in her critique of Lowenhaupt's Heinz test.

In order to stimulate the desiring subject to participate in politics, we need to design constraints that stimulate the formulation and overcoming of collective problems. When the Luddites protested the automation of their craftsmanship in the early nineteenth century with the destruction of cotton looms and wool shearing machines, they did so out of a reactionary fear of technological development.⁵³ As opposed to the non-productive destruction of a tool, a conversion of the concretised machine into a productive constraint entails its re-evaluation in terms of the dissemblage; it entails a sensible dis-assembling to a level of abstract functioning which allows for the appropriation and repurposing by the *dividual*, a morphing into a part-subject of transversal desire.⁵⁴ As Yuk Hui states about the working of machines in 'Notes On Technical Normativity', 'disasters ... are not the result of the breaking down of machines, but rather of their perfection.'⁵⁵ To properly assess machines (and our technological modifications of our surroundings), from stoves to buildings to political systems and global energy networks, we need to invert our notions of the broken and the working, and understand the abstract broken machine as potential-inducing to our (cybernetic) selves, proliferating the capacity to problematise as it re-introduces the collective problem to our automated lives.

To illustrate: artist Francis Alÿs produced a short video juxtaposing recordings of an Afghan and a British soldier

dis- and re-assembling their weapons during the deployment of the British in Afghanistan in 2013.⁵⁶ In a split-screen format, they simultaneously engage in the undoing of the harmful tool, the killing automaton that is both means and end. After the machine guns are made ambiguous, broken in their original functioning, the soldiers reassemble them. The art piece is abtly titled *Sometimes Doing Is Undoing* and *Sometimes Undoing Is Doing*. The undoing of the war tool results in the production of peace and vice versa. Critically, the relation of parts of the machine gun produces the killing tool. Once dismantled, the potentials are endless: barrels, grips, triggers and coils are not inherently deadly; they can be appropriated for water systems, safety handles, life vests and suspensions. The doing by undoing can result in doing-otherwise.

In Alÿs's video the soldiers pause for a moment once the weapon has been dis-assembled before putting the pieces back together in their original configuration. The dis-assembly is usually part of an act of maintenance. The gun is taken apart, cleaned, and put back together, restablising the killing tool. [Fig. 5] It is specifically this very moment though, the moment of deterritorialisation, that holds potential for change. Once undone, the system of the gun is fundamentally destabilised, allowing for modification and creative reinterpretations of existing materials and technical elements.

The moment of maintenance presents us with the decision about what is worth maintaining, and what flows of material and energy are unnecessary or counterproductive and can be shed. The undoing of harmful systems and objects allows for their appropriation for alternative uses, allows for their schizophrenisation in Deleuze and Guattari's sense. [Fig. 6] The restabilisation of these harmful systems remains an active process – one which we can decide against.

Towards a new cosmotronics: pharmacology of the hyper-object

With the physical and cognitive distance that global infrastructure introduced between the individual and the problem, we can return to Stiegler's notion of symbolic misery. The alienation from and of technology and alongside it the alienation from the capacity for protention, appears to depend on the infrastructure that allows for the rapid transmission of information – such as electrical impulses, voltages, data, affect – far beyond the sensible milieu. The lure of automation thus expands the distance between the individual's anticipatory horizon (constituted by the sense-able milieu and the potential for protention) and the problem – a type of dark energy that is produced just as it is tethered by the expanding cables, shipping routes and satellites of global trade.

Symbolic misery does not only circumscribe the loss of participatory value production, but the loss the sensible, the recordable, the comprehensible. Etymologically, the Greek *syn-ballô* ('throwing together') supports this claim: the lack of individuation that automated and externalised desire production equates to, emerges from the lack of our throwing-together with the problem, from the absence of encounter, and from our inability to reconcile problem and action.

The moment of maintenance, however, allows for us to mobilise the paranoid automaton and suggest a line of flight that cures its own sickness. It provides a pharmacology of the hyper-object that relates urban subjects to each other, reiterating the relations of the dissemblage via partial schizophrenisation, transmuting edifices of alienation into open liminal machines that oscillate between schizo-paranoiac poles and allow for perpetual de- and re-territorialisation via immediate engagement and long-term investment of energy.

To recover from the symbolic misery that is proletarianisation, we need to situate problems in our sensible milieus and appropriate the problem via the 'solution', the former being proletarianisation itself, the latter the material hyper-object that causes it. We need to sense-ableise the abstract automaton and register its potential as an action-inducing part-subject of the technological dissemblages that make up our environments, and one that constitutes the immanent potentials for change. Participatory re-pair (as the re-pairing of materials and technical elements) presents us with a critical creative process to reflect and negotiate transversal desire without depleting further resources or disrupting energetic systems – a process that can be potentialised by largely de-monopolising the maintenance and organisation of automating technologies and infrastructures. To return to the analogy of the Thesian ship: vectors of concretisation, determinacy, appropriability and with it potential lines of (trans-)individuation are just as dependent on the shipwright as they are on the warden of the wharf.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

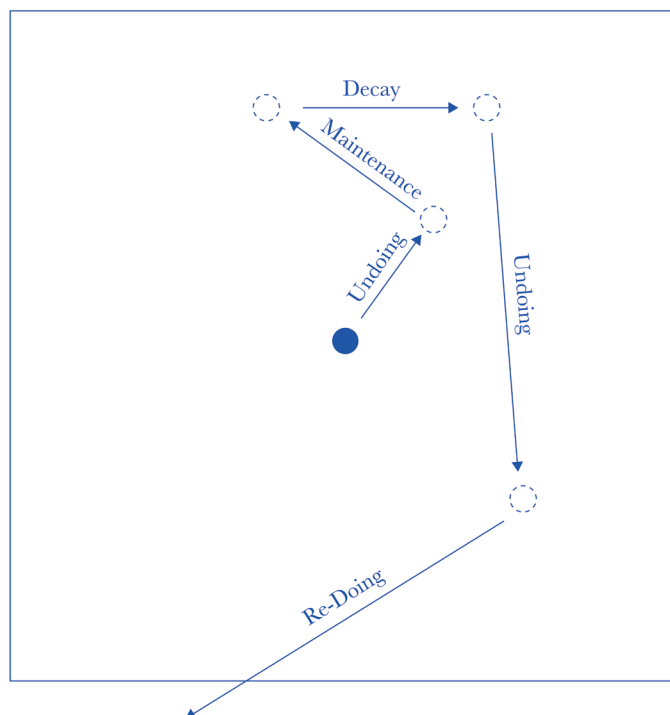
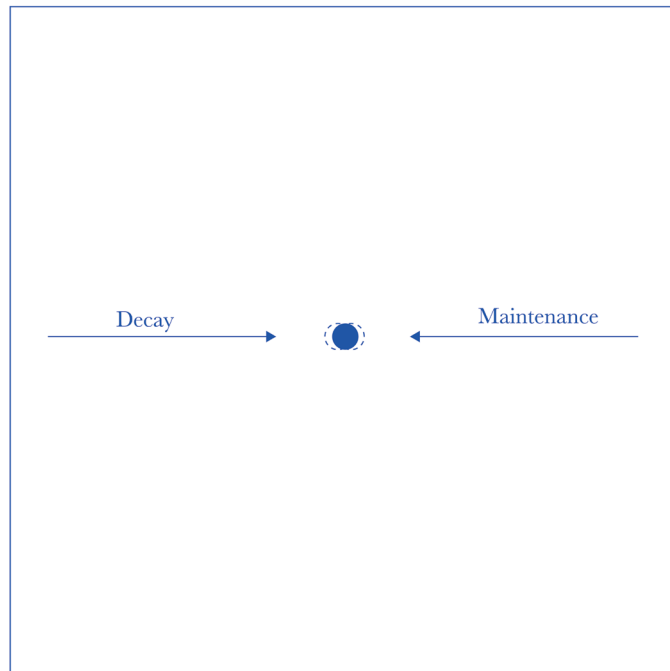


Fig. 5: Decay and maintenance are countering forces in processes of reproduction. Diagram: author.

Fig. 6: Undoing and redoing: introducing acts of disassembly and reassembly allows for the progressive modulation of a given entity that would usually be subject to maintenance, de-concretising systems and technologies and introducing metastability. Diagram: author.

Notes

1. Donella H. Meadows et al., *The Limits to Growth* (New York: Universe Books, 1972), a report for the Club of Rome's Project on the Predicament of Mankind.
2. It is no coincidence that the (barely published and ultimately suspended) British depression and war propaganda campaign (1939) had a cultural resurgence upon the credit crash of the global financial crisis ten years after its rediscovery in a second-hand bookstore in northern England in the year 2000. The 'keep calm and carry on' poster did not gain cultural traction merely due to its simplistic graphic design, but because of the underlying cynicism (relating to an emerging nihilism) with which it confronts the global polycrisis that became ever more apparent in the 2010s.
3. The term 'ultraliberal' refers to the intensifying liberal attitude that pervades the western socius, by far outgrowing what could be considered a neoliberal economical system. For 'Micro-fascism', refer to: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 215–30; for 'Umwälzung', refer to: Karl Marx and Friedrich Engels, *Manifest der Kommunistischen Partei* (London: 1848), 5.
4. The capitalised 'Politics', in this thesis, refers to the set of political, juridical, and executive institutions – usually understood as politics in popular opinion – with all their connotations. For response-ability: the ability to respond. Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 2–7.
5. George Monbiot, 'The New Political Story that Could Change Everything', filmed July 2019 at TEDsummit 2019, Edinburgh, video, 15 min. 5 sec., https://www.ted.com/talks/george_monbiot_the_new_political_story_that_could_change_everything.
6. The Spinozian notions of *potestas* and *potentia* refer to different modes of power. While *potestas* alludes to an oppressive 'power over' something or someone, *potentia* speaks of an affirmative 'power to'.
7. Mereology describes the study of part-to-whole relationships.
8. Yuk Hui, 'What Happens After the End of Enlightenment', *E-Flux* 96 (January 2019): 3–10, <https://www.e-flux.com/journal/96/>.
9. Ibid., 2. Global normalisation results in the loss of heterogeneity per se and is thus equivalent to entropic tendencies in terms of information and meaning.
10. 'Alethic' (from Greek ἀληθεια) refers to a non-negotiable truth, the opposite of 'non-alethic', which refers to contextual truth that depends on conditions. Stavros Kousoulas, 'Ananke's Sway: Architectures of Synaptic Passages', in *Contingency and Plasticity in Everyday Technologies*, ed. Natasha Lushetich, Iain Campbell and Dominic Smith (Lanham, MD: Rowman & Littlefield, 2022), 163–79.
11. Yuk Hui, *Recursivity and Contingency* (Lanham, MD: Rowman & Littlefield, 2019), 100.
12. Alicia Juarrero, *Context Changes Everything: How Constraints Create Coherence* (Cambridge, MA: MIT Press, 2023).
13. Ibid., 60.
14. Brian Massumi, *99 Theses on the Revaluation of Value: A Postcapitalist Manifesto* (Minneapolis: University of Minnesota Press, 2018), 4–7.
15. Ibid., 9.
16. Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983).
17. Daniel Smith, 'Immanence and Desire: Deleuze and the Political', *Stasis* 7, no. 1 (July 2019): 135, <https://doi.org/10.33280/2310-3817-2019-7-1-124-138>.
18. Jérôme Denis, 'Ecological Reparation: Ethnographies and Maintenance', video interview, filmed 10 November 2021, 21 min. 22 sec., https://www.youtube.com/watch?v=ebBsXOxu_LI.
19. For alethic necessity, refer to: Patricia Reed, 'The Valuation of Necessity', in *Block Chains and Cultural Padlocks*, ed. Jesse McKee (Vancouver: 221A, 2021), 123–69; for feedback induced action, refer to: Gregory Bateson, *Steps to an Ecology of Mind* (Northvale: Jason Aronson Inc., 1987), 315–44.
20. Yuk Hui, 'One Hundred Years of Crisis', *E-Flux* 108 (April 2020): 2–9, <https://www.e-flux.com/journal/108/>.
21. The word 'in-vestment' is hyphenated to underline the endothermic vector of kinetic and libidinal engagement.
22. Practices of collective care serve as a mode of desiring production that potentially opens up discourses and productions of production, creating subjectivities that are aware of the resilience of metastable politics and hence become response-able participants.
23. Mark B. N. Hansen, 'Bernard Stiegler, Philosopher of Desire?' *boundary 2* vol. 44, no. 1 (February 2017): 172–73, <https://doi.org/10.1215/01903659-3725929>.
24. Edmund Husserl coined the two forms of retention as primary (immediate, present) and secondary (the just-past), similar to listening to music: the current note (primary) only makes sense in the context of previous musical impressions (secondary); Bernard Stiegler, *The Neganthropocene*, trans. Daniel Ross (London: Open Humanity Press, 2018), 17–18.
25. Johannes F.M. Schick, 'Images of the Future: Anticipating, Fabulating and Inventing with Bergson and Simondon', *Culture Unbound* 13, no. 3 (2021): 86–90, <https://doi.org/10.3384/cu.1689>.
26. An inevitable implication of the tertial retention system and a price we must pay to ensure the communicability of complex thought.
27. Hansen, 'Bernard Stiegler', 174.
28. McKenzie Wark, *Capital is Dead, Is this Something Worse?* (London: Verso, 2019).
29. Bateson, *Steps to an Ecology of Mind*, 315–44.
30. Brian Massumi later comes to call the occupation of potential 'acting politically', as the alter-priming of collective action is

- what causes shifts in collective organisation. Brian Massumi, 'Histories of Violence: Affect, Power, Violence – The Political is not Personal', interviewed by Brad Evans, *Los Angeles Review of Books*, 13 November 2017, <https://lareviewofbooks.org/article/histories-of-violence-affect-power-violence-the-political-is-not-personal/>.
31. Bateson, *Steps to an Ecology of Mind*, 315–44.
 32. The term automaton is, for reasons of clarity, used to describe a singular system or technical object in which automations are actualised or materialised. Automation, by contrast, refers to the process of automating something or a process that is automated. The automaton carries out the automation.
 33. Raymond Ruyer, *Neofinalism*, trans. Alyosha Edlebi (Minneapolis: University of Minnesota Press, 2016), vii–xxi.
 34. Bateson, *Steps to an Ecology of Mind*, 323.
 35. Deleuze and Guattari, *Anti-Oedipus*.
 36. Smith, 'Immanence,' 129.
 37. Félix Guattari, *Schizoanalytic Cartographies*, trans. Andrew Goffey (London: Bloomsbury, 2013), 17–45.
 38. Kousoulas, 'Ananke's Sway,' 165.
 39. Stiegler, *The Neganthropocene*, 17.
 40. Robert A. Gorny and Andrej Radman, 'From Epiphylogenesis to Generalised Organology', *Footprint* 30, (Spring/ Summer 2022): 3–19.
 41. Maria Puig de la Bellacasa, 'Matters of Care in Technoscience: Assembling Neglected Things', *Social Studies of Science* 41, no. 1 (February 2011): 87, <https://www.jstor.org/stable/40997116>.
 42. Ibid., 86.
 43. While maintenance is not part of thermodynamics, the entropy it emerges from or against is. Whoever maintains is thus involving themselves in a negentropic struggle that aims to return to a preceding status quo.
 44. The fragile egocentric is also attuned to context due to their context, not due to themselves.
 45. Moral development test conducted on children to qualify pre-adult development stages, according to Lawrence Kohlberg. The children are posed with a moral dilemma: Heinz's wife Amy is sick. There is medicine at the local pharmacy, but Heinz cannot afford it. Should he steal the medicine? The evaluation of the test was set up to prefer answers that stressed the interchangeability of material goods, such as money and medicine, as opposed to the non-interchangeable value of life. Young boys tentatively answered that yes, he should steal the medicine. Girls tentatively answered no, referring to the unfolding of events in the future that potentially lead to worse scenarios (Heinz could go to jail while Amy gets sick again and the pharmacist could be pushed into precarity). Girls, since they have been historically conditioned into a role of the care-giver, thus argue according to a moral compass that is relational and temporal, as compared to the male perspective to solve problems efficiently. The Heinz test resulted in the labelling of girls as morally less developed, leading to Gilligan's criticism. Please note that the categorisation of genders is part of both Lowenhaupt's framework and Gilligan's critique. Carol Gilligan, *In a Different Voice: Psychological Theory and Women's Development* (Cambridge, MA: Harvard University Press, 1982), 25–28.
 46. Ibid.
 47. Puig de la Bellacasa, 'Matters of Care', 86.
 48. One might think about the selective retention of visual and atmospheric characteristics in police suspect interrogations.
 49. For short-circuiting trans-individuation, see: Stiegler, *The Neganthropocene*, 18; for dissemblage, see Gerald Raunig, *Dissemblage: Machinic Capitalism and Molecular Revolution* (London: Minor Compositions, 2022).
 50. John Bellamy Foster, 'Marx's Theory of the Metabolic Rift: Classical Foundations for Environmental Sociology', *American Journal of Sociology* 105, no. 2 (September 1999): 366–405, <https://doi.org/10.1086/210315>.
 51. Claude Lévi-Strauss, *The Savage Mind*, trans. George Weidenfeld and Nicholson Ltd. (Paris: Librairie Plon, 1962).
 52. Stavros Kousoulas and Andrej Radman, 'Annotate This! Semiotization, Automation and the Recursive Causality of Images', in *The Space of Technicity: Theorising Social, Technical and Environmental Entanglements*, ed. R. A. Gorny, S. Kousoulas, D. Perera and A. Radman (Delft: TU Delft OPEN Publishing, 2024), 171–88.
 53. Gavin Mueller, *Breaking Things at Work: The Luddites Are Right About Why You Hate Your Job* (London: Verso, 2021).
 54. The dividual, as opposed to the individual, refers to an embedded subject in relation to others.
 55. Yuk Hui, 'Notes on Technical Normativity', in *Technological Accidents, Accidental Technologies*, ed. Joke Brouwer and Sjoerd van Tuinen (Rotterdam: V2, 2023,) 162.
 56. Francis Alÿs, 'Sometimes Doing is Undoing and Sometimes Undoing is Doing,' video artwork, 2013, 5: 42, <https://francisalys.com/sometimes-doing-is-undoing-and-sometimes-undoing-is-doing/>.

Biography

Justus Schäfer is an independent researcher, designer and educator situated in Rotterdam. A graduate of the University of Applied Sciences, Erfurt, he has worked in multiple design firms in Germany and the Netherlands. Schäfer received his master's degree cum laude from TU Delft. His research focuses on philosophy of technology, cybernetics, energetics and participatory practices in architecture.

Critique of Forest Intelligence: Scenarios for Architecture and the City in the Twenty-First Century (and Beyond)

Giovanni La Varra, Alberto Cervesato and Tommaso Antiga

University of Udine, Italy

Corresponding Author Mail

giovanni.lavarra@uniud.it

ORCID

Giovanni La Varra <https://orcid.org/0000-0002-8412-9762>

Alberto Cervesato <https://orcid.org/0000-0001-7322-832X>

Tommaso Antiga <https://orcid.org/0000-0002-9716-8322>

How to Cite

Giovanni La Varra, Alberto Cervesato and Tommaso Antiga, 'Critique of Forest Intelligence: Scenarios for Architecture and the City in the Twenty-First Century (and Beyond)', *Footprint* 36 (2025): 93–104, <https://doi.org/10.59490/footprint.19.1.7725>

Submitted 13 July 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

This contribution starts from a question: in what terms can the design reason that is guiding the action of numerous contemporary architects, city planners and project makers be considered and defined? We argue that such reason can be defined as 'forest intelligence', opposed to the human-animal intelligence that has instead characterised the repertoire of architectural-urban solutions from modernity onwards. The latter is characterised by verticality, exemplified by classes of opposites such as centre and periphery, the space of 'nature' and the space of the 'city'. On the other hand, the new 'forest intelligence' is characterised by horizontality – urban polycentrism, interrelation between the parts of the city, absence of a clear division between 'natural' and urban space. Therefore, we have investigated three remarkable moments of the first quarter of our century. From the art world, the Documenta 13 exhibition (2012); representing architecture and landscape

design, Gilles Clément's *Manifeste du Tiers paysage* (2004); and from the field of politics, the 'New Landscape Declaration' (2016), an updated manifesto for landscape practice. We believe that these three specific and topical events can be understood as activators, initiators and at the same time as spaces for publicising the aforementioned 'forest intelligence'.

Keywords

Forest intelligence, human-animal intelligence, design reason, civic forest, architecture, project

We are living in an era marked by multiple transitions, with targets set for 2030 and 2050 on the horizon: this time gap becomes an opportunity to open a reflection, both methodological and theoretical, that allows us to understand how to influence the impacts that the climate crisis and the ecological transition are having on our places, space and landscape.¹ As early as 1987, the Brundtland Report affirmed the need for a new sustainability of development and suggested a reference to *téchne*, conceived as our ability (as humans) to process elements present on the planet such that they could become resources as yet unknown or not employable with the technologies of the time.²

Nearly forty years later, the concept of 'sustainable development' (first introduced precisely by the Brundtland Report) remains at the centre of a transdisciplinary debate that seeks to define new research and projects to rethink a compromised relationship (compromised by us) between humans and their environment.³ Architecture is one of the disciplines involved in trying to understand, explain, anticipate and influence issues such as the typological implication of 'nature', biodiverse environments and their care, social access and the right to 'green spaces'. We can no longer sit back and be spectators to the critical

environmental events around us: design, compared to other more specialised disciplines, can and must respond to these issues with a certain amount of naivety, but also with creativity and lightness.⁴

A new form of urban intelligence

With this contribution we aim to define a transnational and non-local critique of the theoretical foundations that have given rise to a significant proportion of recent projects prefiguring architecture and cities of the near future in the form of civic forests.⁵ We will attempt to demonstrate how this new architectural and urban paradigm is gaining ground insofar as – and by means of which – we are moving towards a forest-like conformation or design structure of urban morphology (henceforth: urban intelligence). This updated conformation of thought and critical posture is horizontal, interrelated and diffuse, and polycentric, made up of rhizomatic city-archipelagos with numerous wild grafts disseminated with architectures in which the living element becomes predominant as a ‘construction material’.⁶

This conception seems to be undermining and replacing the current urban conformation, which could be defined as the classical one, present at least since the agrarian-Neolithic revolution onwards, which is instead human-animal, that is, vertical, hierarchical, centralised, made up of a centre and a periphery. Nowadays, this traditional urban landscape of ours is strongly in need of updating and intensive change operations.⁷ ‘The new enlightenment, which is inseparable from the project of an ecological and democratic society, goes hand in hand with a decentralisation of democracy that requires giving space to citizen-led experimentation and rejects vertical governmentality’.⁸

On the one hand, a city conceived as the worst form of living, except for all the forms that have attempted to replace it, a place in which more than 70 per cent of the world’s population will live by 2050.⁹ On the other, the theatre of the urban conceived as a true ‘species autism’, built almost exclusively with non-living material, within a specist view of segregation towards the outside world for everything that is not human.¹⁰ We live in a strange form of a place that is very problematic, in its current conditions, but which we cannot and will not (in the short term) manage to live without: a different spatial horizon for the city of tomorrow will only be possible by working and operating on the urban intelligence that lies behind the scenes, and which gives shape to the city itself.

Three manifestos of a turning point

From this point of view three initiating events of the first quarter of our century can be traced as premonitory signs

in the 1) artistic, 2) project and 3) political spheres of what in all likelihood awaits us. These projects can serve as scenarios, useful for improving the living conditions of a species (ours) which it now also seems possible to coherently define through a possible leap in species (which is perhaps in part already being implemented).¹¹ *Ecce Homo urbanus*.¹²

Starting from the artistic side of the question, the first event is the prominent, global exhibition Documenta 13, curated by Carolyn Christov-Bakargiev, hosted in Kassel, Germany, in 2012. There, many works centred on and questioned the centuries-old Western relationship between ‘nature’ and ‘culture’, between the natural and the artefactual, between the living and the non-living worlds, constituted by a sharp caesura and incommunicability.¹³ An artist such as Giuseppe Penone, who has always been confronted with the theme of the garden, conceived broadly, reduces to a minimum the threshold that divides (and actually also holds together) the world of artistic production from that of the experience of nature, seeking and proclaiming the utmost commingling and profound interpenetration between these two worlds and their ‘species’ (especially with the series *Essere fiume*, begun in 1981). [Fig. 1]

Starting from similar assumptions, the work exhibited by Song Dong attempts to shed a different light on a work of environmental forces that can sometimes produce something useful for the purposes of our living spaces, assuming that the human being is also able to give it the right space through his *non-doing* of Bartlebian memory (*Doing Nothing Garden*, 2010–12).¹⁴ [Fig. 2] Song Dong’s work is nothing more and nothing less than a small red circular perimeter about forty centimetres high, which in its material rigidity also offers itself as a seat for visitors. This enclosure marks the boundary of a little mound of earth: an area of a few square metres completely closed off to humans for a few years (in preparation of the opening of the exhibition in 2012), where other-lives continue to happen. Amidst grass stalks, flowers, small shrubs, pollinating insects from underground, life teems there. The Chinese artist’s installation is an updated variation on the theme of Joseph Beuys’s *7000 Oaks* for Documenta 7 in 1982, conceived as part of his broader project entitled *Defence of Nature*. Beuys had envisaged the positioning of 7000 basalt slabs in front of the entrance to the Fridericianum, the sale of which would have made it possible to purchase an equal number of oaks to be planted throughout the city, each with its own stele next to it. [Fig. 3]

The idea that we want to affirm is that of an exhibition, Documenta 13, which has arranged a before and an after. It was an exhibition that in many of the works exhibited, in the wake of the ‘interspecific alliances’ of Donna Haraway’s thought that guided the curator’s intentions,



Fig. 1: Giuseppe Penone, *Essere fiume*, 1995–96. River stone, quarry stone. Two elements, approximately 40x80x50cm. Photo: Archivio Penone.



Fig. 2: Song Dong, *Doing Nothing Garden*, at Documenta 13, 2010–12. Photo: Song Dong.



Fig. 3: One of the oak trees planted in Kassel, next to its stele, after Joseph Beuys's performance *7000 Oaks* at Documenta 7, 1982. Photo: public domain.

sought to glimpse a future mixed and no longer split and verticist of 'natureculture'. These goals were achieved by going beyond the notion of species itself, disrupting the idea of inequality, hierarchy and disparity that is realised every time one tries to affirm species difference as something real, ontological and definitive.¹⁵ This is set against a certain vision of things that makes human-animal intelligence – made up of one or more centres and one or more peripheries subject to them – the only reference imaginary for thinking and designing our lives and the spaces dedicated to them. Instead, a move towards a sort of horizontal, non-vertical and interrelated 'biotic communism' is implied, which is what has been defined here as forest intelligence, by way of anti-centralism and pure-peripheralism.¹⁶

If Donna Haraway's two manifestos (*Cyborg Manifesto*, 1985; but more importantly, *The Companion Species Manifesto*, 2003) contributed to laying the theoretical foundations of an exhibition such as Documenta 13, which then itself assumed the role of watershed within recent artistic production, it is always a book in the form of a manifesto that has laid the foundations for the 'landscape turn' of architecture in the last twenty years.¹⁷ The text in question is the fundamental *Manifeste du Tiers Paysage* by Gilles Clément, first published in 2004.¹⁸ By landscape turn, we mean a becoming 'of the landscape' of the architectural discipline taken as a whole: today's ecological-environmental condition forces all architecture to be 'of the landscape', if by this we mean a stronger focus on what is perceived outside or around the canonical construction.

The *Manifeste du Tiers paysage* is the theoretical address book that has probably had the greatest echo and influence on design project practice since Le Corbusier's *Vers une architecture* (1923).¹⁹ Eighty years after the Swiss architect's manifesto, which marked the start of the architectural short century, the bridge of the transatlantic liner immortalised on the cover of its first edition seems to waver. Clément seems to want to bring us back down to earth, to redeem us after a mechanistic and rationalist intoxication, already strongly undermined by the equally extreme formalist and pseudo-historicist drift of postmodernism, which, in a broad sense, has even called into question the very habitability, for us humans, of Gaia's space.²⁰

Within its *Tiers paysage*, Gilles Clément makes two moves in one. The first is clearly political: recalling the most famous pamphlet of Emmanuel Joseph Sieyès, theorist of the French Revolution, Clément states at the outset how his own words are to some degree to be understood as revolutionary. 'What is the Third Estate? Everything – What has it done so far? Nothing – What does it aspire to become? Something'.²¹ The second move is of a planning or architectural nature: the adjective 'Third' (capitalised in Clément's writing to claim a direct connection with

the world of the revolution) designates places that until then had remained 'unnamed', urban outcasts deprived of planning status, and for this reason often relegated to the margins of attention by architects, town planners and public decision-makers.²² Seen through new lenses – that of Clément the gardener, as he likes to define himself – these areas take on a programmatic and in some way existential value, given that 'it is in the gaze that the landscape is built' (a question also reiterated by the European Landscape Convention of 2000).²³

The Third landscape is thus a first site of disruption and rupture of the Cartesian dynamics proper to the disciplines of Western modernity, including those related to the architecture of the city.²⁴ With this, Clément is the first to bring into the world of design and architecture the so-called 'ontological turn' that had occurred in the world of cultural anthropology about a decade earlier, undermining disciplinary assumptions that, just after the release of the *Manifeste*, appeared to be obsolete, tired and now almost meaningless.²⁵ [Figs. 4, 5]

The third event we want to discuss is the *New Landscape Declaration*, one of the most up-to-date manifestos for landscape practice.²⁶ This declaration has emerged within today's legislative panorama (using its words, 'grounding the Green New Deal') and it seeks to operate in a restorative manner with respect to current environmental conditions, on several fronts, crossing many national borders.²⁷ Examples of this landscape practice include the UN's 2030 *Agenda for Sustainable Development* (2015), the so-called European Green Deal (2019) and the more recent Nature Restoration Law passed by the European Parliament on 17 June 2024.²⁸ In further analysis, all these acts and guiding directives, including the *New Landscape Declaration* within the discipline of landscape design, fit coherently within the (renewed) Universal Declaration of Human Rights, which in its Article 5 reads as follows: 'Humanity, and all living species, have the right to live in a healthy and ecologically sustainable environment'.²⁹

The New Landscape Declaration: A Call to Action for the Twenty-First Century is a real declaration of intent, co-authored by James Corner, Kate Orff and Martha Schwartz.³⁰ It opens with these words: 'Across borders and beyond walls, from city centres to the last wilderness, humanity's common ground is the landscape itself. Food, water, oxygen – everything that sustains us comes from and returns to the landscape'.³¹ If the declaration's tones are somewhat heated, primarily ecological (and perhaps a little too catastrophic), the volume captures and recounts not only the words of the manifesto itself, but also some projects of landscape architects, park designers, gardeners and also artists.

What these three initiating events have in common is



Fig. 4: Wagon Landscaping, *Still Alive!*, Ducal Palace of Agliè, Turin, 2024. Photo: Yann Monel and Wagon Landscaping.

Fig. 5: Wagon Landscaping, *Jardin Joyeux*, Aubervilliers, Paris, 2015. Photo: Yann Monel and Wagon Landscaping.

that they are the bearers of a sensibility that was latent (and belonged to a minority) until the end of the twentieth century, but which has taken the stage at the dawn of this twenty-first century (still belonging, however, to quite a minority). This new forest intelligence is also a way, declining the concept of the 'dignity of mourning' introduced by Judith Butler, of widening the spectrum of the 'dignity of art' as much as possible. All of this is an attempt to include those who were considered as mere things: living beings that were conceived as 'world lacking' if not even 'without world' until the end of the last century.³²

Utopias, projects, anguishes: on the forest trend in contemporary architecture

'To banish anguish by understanding its causes; this seems to be one of the main imperatives of bourgeois art'.³³ Today, fifty years after Manfredo Tafuri's text, the issues agitating the architectural debate seem to be very different from those he explored, but that statement still seems significantly relevant. It is obvious that we are dealing with new anguishes, or old anguishes taking on new forms, but 'bourgeois art' – whatever that means today, or did then – still seems to be focused on understanding the causes of the anguish that runs through the new planetary middle class.³⁴

Again, in that fulminating first chapter of *Progetto e utopia*, Tafuri takes up the image of the city as a forest. Today, this metaphor seems the only great utopia available. There is no major new project on an urban scale that is not treated as an image of an Eden: the forest, the woods, the clearing, the garden, the orchard, all come together to form a new open space that represents, connects and distributes. [Fig. 6] This is a spatiality that is, in some ways, pre-historical before it is wild. The image is that of an urban that allows itself to be undermined and placed on the fringes by welcoming pieces of 'nature'; an urban that tends to disappear, to fade into the background, with a dense bush now in the foreground. Together with a pre-historical valence, this space, in some ways, could also take on a pre-political instance. In fact, the inclusive image of nature also seems to be a device to annihilate conflicts, to construct a condition of 'urban relativism' that can entail as many pitfalls as it proposes solutions.³⁵ There is no relationship between the forests evoked by Laugier and Milizia (as Tafuri recalls them) and those manifested in the urban imaginaries prevalent today.³⁶ But it is a relevant coincidence. The metaphorical image of the forest that during the so-called Age of Reason seemed to contain within it the sense of its irrationality, changes in our own time. The new forest is *literal*. In it we see the houses and streets, in the foreground emerge the Edenic signs of the daily care of open space. The aim is to revive and extend the metropolitan dimension but

transfigure it into the luminosity of the contemporary forest, always full of light, reflections and clearings where the life of the future will find space and places of exchange.

If the forestry solution is a pre-political space, the anguish that must be banished today is post-ideological.³⁷ The spectre of new anguishes today seems to reside above all in the perception, which is now clear, that an energy-intensive development model is serving its irrationality. In the meantime, the economic model that instructed it doesn't seem to demonstrate the necessary awareness of the problem.³⁸

If an *urban scheme* can be qualified as the political way of thinking about and managing the city, on the other hand, *urban intelligence* can be defined as the design way of dealing with the spatial question proper to the city.³⁹ And the question of urban intelligence – in particular that of its current mutation, because this is the thesis pursued here – becomes fundamental in an era in which the very space of the city finds itself stretched and stressed between two poles delineating a future that is paradoxically uncertain and obligatory at the same time.⁴⁰ The city and the forest are the two poles of a new urban scene that seems to deal with contemporary anguish with the measured replacement of entire parts of the twentieth-century city (itself a collage of different epochs and dynamics) with a forested urban landscape, a sort of new cosmopolitan habitat.⁴¹

In its variants, with annexed implications – whether artistic, design and political, investigated in the course of this text – today's exercise of 'banishing anguish' thus becomes an attempt to stage a habitat that, by completely detaching itself from the habitats inherited from the city of the past, seems to prelude a new, innocent beginning.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

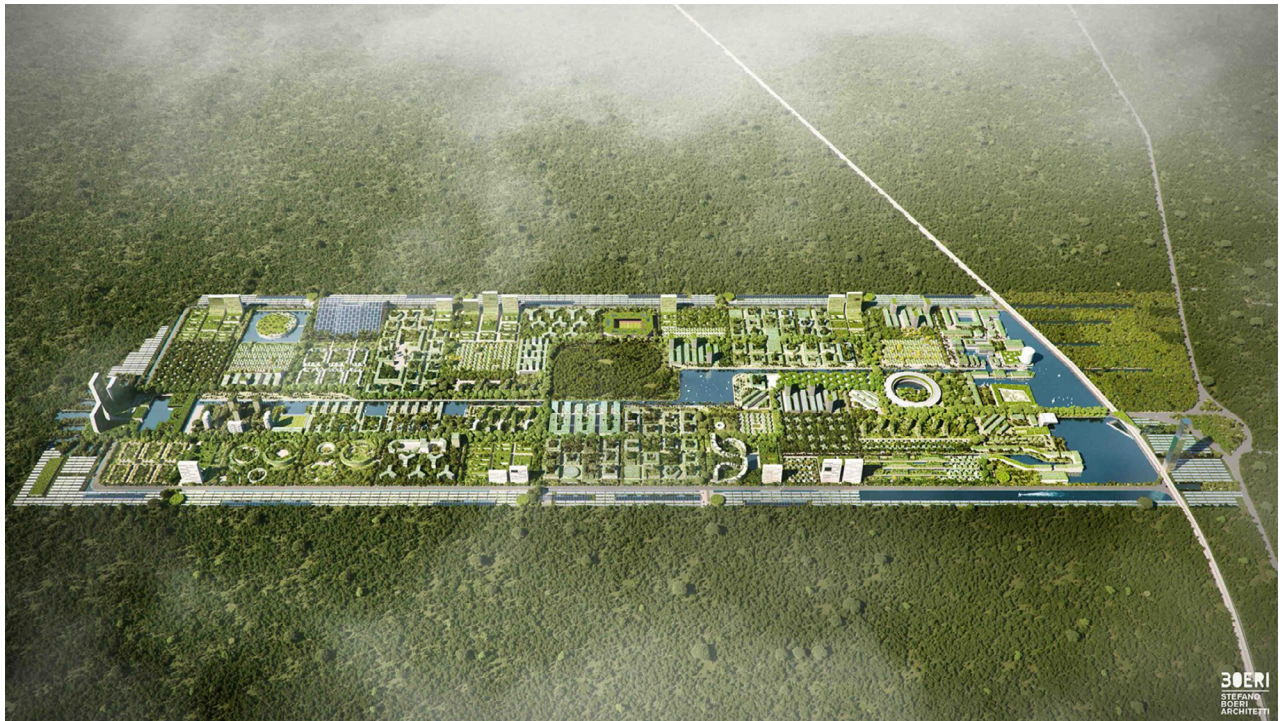


Fig. 6: Stefano Boeri Architetti, *Cancun Smart Forest City*, Cancun, 2018–19. Image: The Big Picture, courtesy Stefano Boeri Architetti.

Notes

- United Nations, 'Transforming Our World: The 2030 Agenda for Sustainable Development', A/RES/70/1 § (2015), <https://undocs.org/en/A/RES/70/1>; European Commission, 'The European Green Deal' (2019), <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019DC0640>.
- United Nations, *Our Common Future* (known as the Brundtland Report), 1987; Cesare Sposito and Francesca Scalisi, 'Riflessioni e traiettorie di ricerca interdisciplinari sulla transizione energetica', *Agathón: International Journal of Architecture, Art and Design* 15 (2024): 3–17, <https://doi.org/10.19229/2464-9309/1502024>.
- Telmo Pievani and Mauro Varotto, *Viaggio nell'Italia dell'Antropocene: La geografia visionaria del nostro futuro* (Sansepolcro: Aboca, 2021).
- Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2009); James Graham et al., eds., *Climates: Architecture and the Planetary Imaginary* (Zurich: Lars Müller, 2016).
- Annalisa Metta and Maria Livia Olivetti, eds., *La città selvatica: Paesaggi urbani contemporanei* (Melfi: Libria, 2019); Giovanni La Varra, 'Bosco (analogo)', in *Le parole e le forme – Book of Papers: Decimo Forum ProArch*, ed. Laura Arrighi et al. (Rome: ProArch – Società Scientifica del Progetto di Architettura, 2023), 266–71.
- Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007); Luca Molinari, *Le case che siamo* (Milan: Nottetempo, 2020); Stefano Boeri, *Urbania* (Rome: Laterza, 2021); Sara Marini, ed., *Vesper n. 3: Nella selva* (Macerata: Quodlibet, 2020); Annalisa Metta, *Il paesaggio è un mostro: Città selvatiche e nature ibride* (Rome: DeriveApprodi, 2022).
- Barnabas Calder, *Architecture: From Prehistory to Climate Emergency* (London: Penguin, 2021); Bernardo Secchi, *La città del ventesimo secolo* (Rome: Laterza, 2005); Intergovernmental Panel On Climate Change (IPCC), ed., 'Urban Systems and Other Settlements', in *Climate Change 2022: Mitigation of Climate Change* (Cambridge: Cambridge University Press, 2023), 861–952, <https://doi.org/10.1017/9781009157926.010>.
- Corine Pelluchon, *L'età del vivente: Per un nuovo Illuminismo* (Rome: Donzelli, 2023), 21, our translation.
- Maurizio Carta, *Homo urbanus: Città e comunità in evoluzione* (Rome: Donzelli, 2022), 4.
- Emanuele Coccia, 'La natura comune: Oltre la città e la foresta', *Vesper: Rivista di architettura, arti e teoria* 3 (2020): 96–107, 98.
- Leonardo Caffo, *Fragile umanità: Il postumano contemporaneo* (Turin: Einaudi, 2017); Leonardo Caffo, *Velocità di fuga: Sei parole per il contemporaneo* (Turin: Einaudi, 2022).
- Carta, *Homo urbanus*.
- Gabi Scardi, 'dOCUMENTA (13)', *Domus* online, 5 July 2012, <https://www.domusweb.it/it/arte/2012/07/05/documenta-13->html; Leonardo Caffo, 'Il primo squarcio nelle Geografie Cartesiane', *BLOOM* 26 (2015): 21–36.
- Giorgio Agamben, *Nudità* (Milan: Nottetempo, 2009), 67–70; Herman Melville, 'Bartleby, the Scrivener: A Story of Wall Street', in *The Piazza Tales* (New York: Dix & Edwards, 1856).
- Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016); Elizabeth Schambelan, 'Talks with Curator Carolyn Christov-Bakargiev about dOCUMENTA (13)', *ArtForum* online, June 2012, <https://www.artforum.com/columns/talks-with-curator-carolyn-christov-bakargiev-about-documenta-13-199963/>; Leonardo Caffo, 'Che cosa fa l'arte oggi? Dalla transavanguardia all'Arte come Anticipazione di Fragilità nell'età della velocità di fuga', *Flash Art* online, 14 October 2021, <https://flash---art.it/2021/10/abo-castello-di-rivoli-leonardo-caffo/>; Donna J. Haraway and Thyrza Nichols Goodeye, *Come una foglia*, trans. Gina Maneri and Marco Carassai (Rome: Tlon, 2024); Emanuele Coccia, 'La fine della lotta delle specie', in *Comp(h)ost: Immaginare interspecie*, ed. Francesca Comisso, Luisa Perlo and Marianna Vecellio (Rome: Nero, 2021), 92–97.
- Coccia, 'La fine della lotta delle specie', 97; Caffo, 'Che cosa fa l'arte oggi?'
- Donna J. Haraway, *Manifesto delle specie compagne: Cani, persone e altri partner*, trans. Matteo Martelli (Milan: Contrasto, 2023); Donna J. Haraway, *Manifesto cyborg: Donne, tecnologie e biopolitiche del corpo*, trans. Liana Borghi (Milan: Feltrinelli, 2020).
- Gilles Clément, *Manifeste du Tiers paysage* (Paris: Sujet/Objet, 2004).
- Le Corbusier, *Vers une architecture* (Paris: Crès, 1923).
- Emanuele Coccia, 'Reversing the New Global Monasticism', *Log* 49 (2020): 9–17; Leonardo Caffo, 'Il verde nel grigio: Una teoria dell'innesto', *via Borgogna 3: Il Magazine della Casa della Cultura* no. 3 (2016): 46–49.
- Clément, *Manifesto del Terzo paesaggio*, 11.
- Matthew Gandy, ed., *Natura Urbana: Ecological Constellations in Urban Space* (Cambridge, MA: The MIT Press, 2022).
- Council of Europe, 'European Landscape Convention' (Florence Convention) (2000), <https://www.premiopaesaggio.beniculturali.it/wp-content/uploads/2021/04/convenzioneeuro-pea.pdf>; Gilles Clément, *Breve trattato sull'arte involontaria: Testi, disegni e fotografie* (Macerata: Quodlibet, 2022), 99.
- Caffo, 'Il primo squarcio'.
- Eduardo Viveiros De Castro, 'Cosmological Deixis and Amerindian Perspectivism', *The Journal of the Royal Anthropological Institute* 4, no. 3 (1998): 469–88, <https://doi.org/10.2307/3034157>; Philippe Descola, *Par-delà nature et culture* (Paris: Gallimard, 2005); Eduardo Kohn, *How Forests*

- Think: Toward an Anthropology Beyond the Human* (Berkeley: University of California Press, 2013).
26. Landscape Architecture Foundation, ed., *The New Landscape Declaration: A Call to Action for the Twenty-First Century* (Los Angeles: Rare Bird Books, 2017), <https://www.lafoundation.org/take-action/new-landscape-declaration>.
 27. Isabelle Stengers, *Au temps des catastrophes: Résister à la barbarie qui vient* (Paris: La Découverte, 2008).
 28. United Nations, 'Transforming Our World: The 2030 Agenda for Sustainable Development' (2015); European Commission, 'The European Green Deal' (2019); European Commission, 'Nature Restoration Law' (2024), https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en?prefLang=it#documents.
 29. 'DDHU – Universal Declaration of Humankind Rights' (2015), <https://ddhu.org/the-declaration/>.
 30. It is a serious call to arms, thrown out to the world by the Landscape Architecture Foundation (LAF) on the days of its presentation (10-11 June 2016), when more than seven hundred professionals virtually signed and endorsed the manifesto.
 31. Landscape Architecture Foundation, *New Landscape Declaration: A 21st Century Call to Action for Landscape Architecture – This Is Our Call to Action*, <https://www.lafoundation.org/take-action/new-landscape-declaration#:~:text=Across%20borders%20and%20beyond%20walls,we%20ultimately%20do%20to%20ourselves>.
 32. Massimo Filippi and Marco Reggio, eds., *Corpi che non contano: Judith Butler e gli animali* (Milan-Udine: Mimesis, 2015); Judith Butler, *La forza della nonviolenza: Un vincolo etico-politico*, trans. Federico Zappino (Milan: Nottetempo, 2020); Judith Butler, *Perdita e rigenerazione: Ambiente, arte, politica*, trans. Isabella Pasqualetto (Venice: Marsilio, 2023); Martin Heidegger, *Concetti fondamentali della metafisica: Mondo, finitezza, solitudine*, trans. Paolo Coriando (Genua: Il Melangolo, 1992).
 33. Manfredo Tafuri, *Progetto e utopia: Architettura e sviluppo capitalistico* (Rome: Laterza, 1973), 5, our translation.
 34. Byung-Chul Han, *Contro la società dell'angoscia. Speranza e rivoluzione*, trans. Armando Canzonieri (Turin: Einaudi, 2025), 7–25.
 35. 'When Laugier, in 1753, enunciates his theories on the design of the city, officially opening up the theoretical research of Enlightenment architecture, his words betray a dual intent. On the one hand it is the urge to reduce the city itself to a natural phenomenon, and on the other to overcome any a priori idea of urban ordering by extending to the fabric of the city formal dimensions linked to the aesthetics of the Picturesque'. Tafuri, *Progetto e utopia*, 7, our translation.
 36. Marc-Antoine Laugier, *Essai sur l'architecture*, 1753; Francesco Milizia, *Principj di architettura civile*, 1781; Matteo Agnoletto, 'Artful confusion', *Parametro* no. 264–65 (2006): 24–27.
 37. Slavoj Žižek, *The Sublime Object of Ideology* (London: Verso Books, 1989).
 38. Neyran Turan, *Architecture as Measure* (New York: Actar, 2020).
 39. Pelluchon, *L'età del vivente*.
 40. Florence Ferran, Claudia Mattogno, and Annalisa Metta, eds., *Coltiviamo il nostro giardino: Osare nuovi paesaggi, prendersi cura, inselvaticare il mondo* (Rome: DeriveApprodi, 2019).
 41. Cecil C. Konijnendijk, *The Forest and the City: The Cultural Landscape of Urban Woodland* (Berlin: Springer, 2008); Maria Livia Olivetti, *La foresta civile: Un breviario per i boschi urbani contemporanei* (Melfi: Libria, 2024).

Biography

Giovanni La Varra (PhD) is an architect and associate professor in architectural and urban composition at the Department of Engineering and Architecture of the University of Udine. With his studio Barreca & La Varra he has several urban regeneration projects underway in Italy and abroad (<http://barrecaelavarra.it>). He is also the author of numerous essays and articles in magazines such as *Abitare*, *Casabella*, *Domus* and *The Plan*.

Alberto Cervesato (PhD) is an architect, research fellow on the iNEST project and adjunct lecturer at the University of Udine. His research topic concerns the valorisation of architectural heritage in relation to the sustainability aspects of urban regeneration projects. He carries out teaching and research activities at the University of Morón, Buenos Aires.

Tommaso Antiga is an architect and PhD candidate in architecture at the University of Trieste, in an inter-university course with the University of Udine. He graduated at the University of Udine with a thesis in the form of a discourse around the theme of death and its places. Currently, his research focuses on the issues of urban regeneration by reforestation and renaturalisation, as well as those of ecology and nonviolence. He pays particular attention to the urban place of the cemetery as a space of implicit criticism for the society and architecture of the city to come.

A Fantastic Guide to the Cybersiren, and Everything Else You Need to Know about the Love, Death, Origins, Characteristics and Chronicles of the Neapolitan Port

Miguel Borst, Qiyu Chen, Koen de Nie, Mees van Rhijn and Jean Rojanavilaivudh
Delft University of Technology

Corresponding Author Mail

K.H.M.deNie@student.tudelft.nl

ORCID

Miguel Borst

Qiyu Chen <https://orcid.org/0009-0008-8481-4146>

Koen de Nie <https://orcid.org/0009-0001-3576-6247>

Mees van Rhijn

Jean Rojanavilaivudh

How to Cite

Miguel Borst, Qiyu Chen, Koen de Nie, Mees van Rhijn and Jean Rojanavilaivudh, 'A Fantastic Guide to the Cybersiren, and Everything Else You Need to Know about the Love, Death, Origins, Characteristics and Chronicles of the Neapolitan Port', *Footprint* 36 (2025): 105–24, <https://doi.org/10.59490/footprint.19.1.7866>

Submitted 13 July 2024

Revised 16 October 2025

Accepted 29 January 2025

Published 20 June 2025

Abstract

The separation of Napoli from its port – driven by industrialisation, privatisation and urban neglect – has disconnected the city from the sea. Drawing on the local mythological tradition, the Cybersiren is introduced as an advocate for change and a way to reconnect city, port and people. It is presented as a disruptive force in response to rigid systems of authority and control that currently dominate the Neapolitan port. This is presented in two ways. First, through a guideline that explains the characteristics of the Cybersiren as a queer entity, one that is body- and techno-fluid, is ambiguously alien on the one hand yet familiar on the other. The guideline also speaks of the way in which the Cybersiren attacks, shatters and eventually, dies. Second, these characteristics are translated into a fictional story that uses imagination to consider how

change could be brought about in order to foster technodiversity and reconfigure relationships. Mythopoesis, or the formation of a myth, is used as a tool in order to explore how the grotesque could be used to challenge what has become stuck.

Keywords

Napoli, Cybersiren, queering, smooth-striated, technicalities, alienation

For the curious mind, before you proceed, please be aware that you are solely liable for any future damage, destruction and disruptions caused by the hypnotic songs of the Cybersiren. Welcome to its universe. While we, the writers, do not want to impose any type of interpretation upon you, the reader, we still felt that it might be beneficial for your own reading experience to have some level of understanding of what this essay is about. Its aim is to expand our understanding of the Cybersiren. We attempted to address all questions a curious reader like yourself could have, as it is our belief that with a proper understanding of this larger-than-life fantastical being, one is able to apply the concepts for oneself. And while the Cybersiren in its essence is a call for action, this essay is not a manifesto; it does not want to impose any pure form of interpretation. Rather, its fragments could be read like an instruction manual for your new fancy drill, explaining the different parts, where it was manufactured and how it can be used. It is a biology piece in the sense that it just states what is. It describes how it was, what went down. With this in mind, we feel that it is safe to send you on your own journey. The best of luck.

A brief history of division

The development of the Neapolitan port is closely tied to the city's historical changes in the eighteenth and

twentieth centuries. When Italy relocated its capital to Turin in the eighteenth century, Napoli's political significance declined, leading to a downturn in the port's trading status. This caused the town to distance itself from the port, even though the port had once been a vital link between maritime activities and urban life.

During World War II, Mussolini's vision for an industrialised and militarised waterfront further deepened the separation between the port and the city by implementing zone-dividing infrastructures.¹ A trace of this remains evident today, as remnants of the old railways are still visible in the parking lot. Even today, this vision continues to shape a rigid urban plan where isolation characterises the port-city relationship.

The post-war development failed to bring an overall positive impact to the port development due to the constant neglect of this area in urban planning, exemplified by entire city plans on which the port area is left completely blank. The port thus continues to serve as a monofunctional industrialised waterfront facility and remains disconnected from the city, which in turn separates the city from the sea.² Whereas the port is historically a place of commotion, a place of arrival and departure and part of the beating heart of the city, currently it is an unwelcoming environment for outsiders and seems to be nothing more than a hidden necessity for sustaining people's lifestyle. An increase in scale and inaccessibility are the consequences of the mechanisation and automation of the port's processes, as well as the privatisation of the port authority. That being so, a distance between Napoli and its identity as a port city has emerged.

Mythological tradition

Despite the port today being a place void of stories, religion and mythology have always had a profound impact on the Neapolitan's everyday life. The narratives about the city all revolve around love and death, a juxtaposition of two ubiquitous things throughout humanity and thus speaking to the imagination vividly.³ According to the legends, Napoli was founded after Ulysses, one of the heroes of Greek mythology, was warned about the sirens before he set sail. With their hypnotic voices of the sea, they would seduce passing sailors before killing and eating them. In order not to fall prey, Ulysses blocks out the ears of his sailors with wax and lets himself be bound to the mast. In desperation from not being able to lure him into the sea, the siren Parthenope throws herself into the sea and dies. Where her body washed up on shore, the city of Napoli arose. Another tale tells of Vesuvius, a centaur in love with Parthenope. Upon hearing this, Zeus becomes jealous and transforms him into a volcano. Lastly, there is the tale of the river god Sebeto, the river which used to end

up in the Mediterranean at Napoli's Porta della Madallena. In the story, Sebeto and Parthenope are engaged in a love affair that cannot last. Likewise, these days the actual river has completely dried up due to irrigation and canalisation, and is yet another representation of the loss of history. The mythical and magical properties of Napoli extend far beyond Greek mythology. Throughout history, cults have merged into religions, and these religions in turn developed their own myths and miracles interwoven with the ancient stories and traditions that precede them. Rituals tied to the story of Parthenope even contaminated and spread into Christian traditions.⁴ It is this ancient storyline running through Napoli that plays a large role in shaping the city as it is today.

What makes the stories so memorable – they are still being retold after all those years – is their universal quality of speaking to the human imagination. The myths revolving around Napoli speak of love, death, desire, jealousy, seduction, rage and despair. The concept of mythopoiesis or myth-making involves the creation of myths in order to explain social and cultural phenomena. According to Massumi, virtual narratives shape and alter our perception of reality and political landscapes; the way people feel and act in the world.⁵ Myths are more than mere stories from the past; they are active and dynamic and generate and amplify affects which can bring upon a sense of collective identity, or drive people apart. On the one hand, myths can foster a sense of community, but on the other, they can be used as tools of manipulation and enforcing ideologies upon others.

Origin story

This is where we depart from – using the creation of a myth in order to shine a new light on an environment that is in need of reinterpretation and regeneration. The port area of Napoli is a strongly controlled and monofunctional environment. Here, the interplay between belief and control has got out of balance. That interplay being transduced by authority, the shift has moved closer towards control, belief having been coded by societal structures rather than stemming from people intrinsically. Traditionally, the harbour could be considered a trinity of sea, people and port and thus likened to Gilbert Simondon's concept of technicities, making explicit the interconnectedness of humans, environments and technologies.⁶ However, rather than the dynamic interactions that lie at the root of technicities, currently the port seems to be a disconnecter. Not only is the port an inaccessible and inhumane environment, but the disconnection between city and port consequently also breaks the ties between the city and the sea.

This disjunction is visible in or through the concept of smooth and striated space as developed by Gilles

Deleuze and Félix Guattari.⁷ Smooth space can be seen as continuous and undivided, open-ended, fluid and dynamic, lacking strict boundaries or hierarchies. The open sea is an example of smooth space, but in a way, the city of Napoli is too. In all of its chaos, people have found ways to personalise the city, leading into an environment that seems to be without rules, where people appropriate the city without a clear underlying structure or overarching theme. Conversely, the port is the epitome of striated space, as defined by segmentation, order and structure. There is a clear division of space and regulation of movement through direction, clearly distinguishing the area into places that are public and those that are not. Similarly, the concept of time is synchronised in the port, for machines and ships determine its schedule, not the needs of the people, not even the people working there. Therefore, it is difficult to have a sense of personalised time, which makes it difficult to understand the port according to our perception, because the experience of being here is hard to internalise. Following this analysis, the port again becomes a striated disruptor between the smooth areas of the sea and the city.

This is a part of what can be called 'the Neapolitan predicament', where over the years the port has become a disrupter, and thus a lack of interaction with or access to the sea has emerged.⁸ Perhaps the monotony of this environment is one of the reasons for the lack of technological diversity. The common belief of *mare libero*, that the sea is everyone's and no-one's property and thus ought to be accessible to all, has therefore been shattered. Almost all of the Napoli's waterfront is privatised, either because of the port and other industrial functions, or because high-end resorts and beach-side restaurants claim the space to be theirs, asking for an entrance fee in order to reach the water. The city has become a spectacle to consume, and this commodification of leisure only strengthens the authority of the port, as it determines for the most part what goods come into and go out of the city. While this might seem like a recent development, this assessment dates back to the nineteenth century and effects of the picturesque movement.⁹

Whereas the sea used to bathe Napoli, it now mainly serves the port, and has been reduced to something that can be controlled, used and exploited. The way Napoli is stuck was already elaborated upon by Anna Maria Ortese in the 1950s, in her book *Il Mare Non Bagna Napoli* ('the sea does not bathe Naples'), where the city is portrayed as one torn apart by social inequality and physical deterioration caused or magnified by the destruction of the Second World War.¹⁰ The isolation and alienation experienced by the characters in the book reflect their estrangement from the Big Other, a concept developed by Jacques

Lacan. The Big Other represents the overarching structure of norms, values and laws that govern society and shape individuals' identities and behaviour. What is acceptable or not is determined by an external authority, but becomes internalised by individuals through their upbringing and socialisation.¹¹ A problem arises when these externally enforced rules do not align with the current city's dynamics or an individual's wishes or desires. The rules are often rigid and unable to adapt because of how deeply they are engrained in society.

In order to regenerate what has become stuck and again bathe Napoli in the endless sea of possibilities, the Cybersiren emerges. This is a fantastical creature lying at the heart of the sea, the machine and human. It is born at the place where the port, the Mediterranean and the Neapolitans collide. Its creation beyond genesis catapults a challenge to conventional birth and origin. It exists in a state of ephemerality, only appearing after the emergence of static and over-coding. It only wakes up in the silence that arises from inertia and only sleeps again when this fixity is resolved and things are put back to their natural disorder. Being a hybrid of machine and organism, the Cybersiren is as much a creature of social reality as a creature of fiction and thus has the power to change our lived social relations, those being the most powerful political construct.¹²

Like the sirens from the stories, the Cybersiren sings, its sounds creating vibrations that disrupt what has become stuck, resonate with the people in order to re-instill their belief in the unity of the sea and city, luring them into breaking free from the grid in order to reignite what was once there and is still visible in the rest of the city. The Cybersiren issues an invitation to be playful, to challenge authorities, to dispel the idea of the port being a static place, one that is merely there for efficiency's sake.

The Cybersiren bridges human, machine and sea

The Cybersiren is a holobiont that seamlessly integrates human, machine and the sea into a cohesive system. [Fig.1] It accomplishes this by incorporating various forms of time, a key mechanism in its operation. This synchronisation of different temporal dimensions results in a harmonious interplay, where the machine navigates the human domain with remarkable efficiency, transforming its mechanical precision into fluid, organic movements.

This unique synthesis of the organic and the mechanical maintains a delicate balance between rigidity and freedom, while taking into account both structured mechanical systems and the flexible, adaptive qualities of the organic. The dichotomy of machines and the human relates to the notions of alienation and familiarity. Operating in a highly efficient, systemised programme, the machine

landscape engenders a sense of alienation from which humans feel excluded. Familiarity comes from the sense of everydayness or approachability. The Cybersiren is a bridge between these alienated and familiar landscapes and creates an equilibrium between organic and inorganic matters by satisfying both machines and humans' needs. In addition, rather than merely humanising the mechanical world or imbuing machines with human characteristics, the Cybersiren's true purpose lies in bridging seemingly unbridgeable gaps and opening pathways that have become closed.

This bridging process fosters a deeper connection and understanding between disparate realms. It challenges traditional boundaries, suggesting a new paradigm where the distinctions between human and machine, organic and mechanical, are blurred. The Cybersiren thus emerges as a symbol of integration and unity and offers a vision of a future where technology and nature coexist and complement each other. This enhances the capabilities and experiences of both. The Cybersiren, by being at the same time a mechanical and an organic being, bridges the divide between so-called organising inorganic and organising organic as understood by Yuk Hui.¹³ It is a being with parts that qualify as organised organic and organised inorganic (the technological parts). However, the entirety of the Cybersiren is capable of organising, thus establishing a new category of being, an organising inorganic organic.

Besides connecting humans and machines, the Cybersiren also embraces the boundless freedom of the sea to unlock endless possibilities and smoothness. To achieve this, it unifies the disparate elements of the land and water. Through this unification, it introduces a smooth interface where the striation of the port environment melts with the fluidity of the marine realm, tapping into those properties that are traditionally associated with the sea and are much needed to be able to bathe the city and land again. By doing so, the Cybersiren paves the way for a diversified future and is able to challenge the old, prescribed system. In this vision, a new system emerges to re-relate and re-organise the pre-existing isolated factors. Central to this transformative system is the active participation and intrinsic belief of people that reinterpret and reinvent the port.

Thus, the Cybersiren stands as a beacon of change, illustrating how the unification of human, machine and sea can lead to a more holistic and inclusive future. It emphasises the importance of breaking free from old paradigms to embrace a more harmonious and synergistic relationship between static and active systems.

The Cybersiren is queer

The Cybersiren destabilises the static and seeks agents

for change in which newness emerges, creating disorder in order to re-order. [Fig. 2] It disturbs the formation or the flow from the Big Other and challenges the status quo. Destabilisation of the Neapolitan predicament will lead to an opening of a potential matching the smooth space of the sea. The Cybersiren is both sexless and genderless; the Cybersiren dissolves binaries of male and female, masculine and feminine. Transcending the realm of human and machine, closer to a phenomenon, the Cybersiren will be referred to as 'it'. In Cybersiren's queering manipulation, things can no longer return to the status quo because of the opened-up potential that was not present before. Its force of disruption is too strong an elastic reaction; the system enters plastic change. It does not conform to categorisation, and this is translated in the breaking of boundaries between sea, port and city. It has three queering strategies:

The queering of relations and the embrace of heterogeneity push the Cybersiren beyond rigid categories, and promote a topological view that is fluid and centred on abilities rather than form. This perspective sees genetic variation as non-generic and non-classifiable, fostering new, dynamic interactions that disturb and challenge established norms. Such disruptions open up previously closed cybernetic loops and offer imaginative alternatives that were once inconceivable. By defying standard conventions, queerness reduces hierarchy and destabilises stringent authoritative systems, thereby implementing new power entities that challenge the dominant structures. The de-privatisation of the port authority gives the people, instead of the port, greater agency.

The queering of time and the future challenges the traditional, uniform perception of what lies ahead, promoting a nonlinear formation of future possibilities. The concept of the Cybersiren exemplifies this diversification by disrupting fixed notions of a visible and predictable future, instead shifting our perspective to embrace the invisible, the unpredictable, the unknown. This approach aligns with Tony Fry's ideas and Lena Boroditsky's research, both highlighting how breaking away from conventional temporal structures allows for a broader, more inclusive understanding.¹⁴ By queering time – whether personal, standardised, or otherwise – the Cybersiren offers alternatives and liberates us from the constraints of a fixed future. As the Cybersiren is genderless, it is free from organic reproduction and thus, free from genesis at all. It is the culmination of becoming, without beginning or end.

The queering of technology, or technodiversity, challenges the conventional norms of what technology can do, be, or represent, thereby broadening our understanding. This perspective views technology through the lens of the aesthetics of politics, allowing for a more expansive

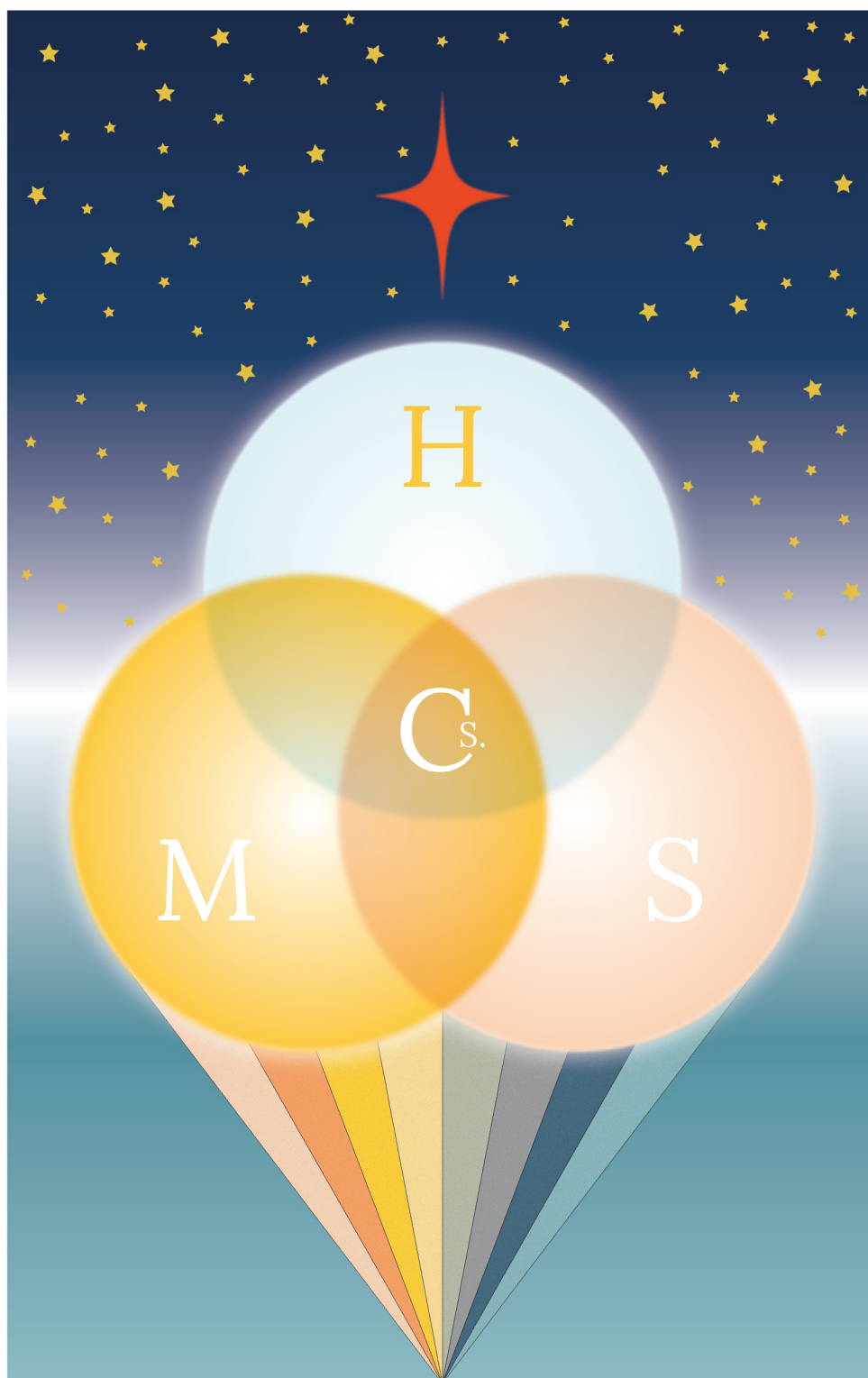


Fig. 1: The Cybersiren bridges human, machine and sea. Illustration: authors.

and inclusive interpretation. Cybersiren exemplifies this by breaking down the 'There Is No Alternative' mindset in which capitalism is the only viable option, encouraging innovative and diverse possibilities in the technological realm.

The Cybersiren is body- and techno-fluid

The Cybersiren embodies a state of body- and techno-fluidity and exists in a perpetual process of regeneration and transformation. [Fig. 3] It refuses to fixate itself and resides in the liminal space between the cybernetic entity and the organic being. This fluid nature allows it to penetrate political fortresses and challenge authoritative rigidity, as outlined in Haraway's 'Cyborg Manifesto,' where regeneration involves the regrowth of structure and restoration of function, often resulting in unexpected, potent forms.¹⁵ Body parts could be removed or replaced, which can translate itself in the tangible through additions, expansions, erasures and punctuations, but also in the intangible by altering systems. This mode of regeneration would lead into the grotesque, which includes exaggerated images that provoke or disturb and thus challenge the conventional. Through transformation, boundaries of solidified forms are transgressed, defying all forms of categorisation and order. These transformations can take place through mutations too, celebrating hybrid forms and unplanned, unstructured or seemingly hazardous events.

Exactly these accidents or acts of spontaneity can lead to new modes of thought and representations of those in the built environment. Because the Cybersiren turns the striated into the ambiguous, the body's potential is continuously redefined by disrupting the fixed and emphasising fluidity. The development of the grotesque can be traced back to the ornamental art of ancient Rome, where fantastical imagery would blend human, animal and vegetal forms. It is described by a distortion that defies the laws of nature and conventional aesthetics. In doing so, the grotesque transcends the merely aesthetic, instead also dealing with psychological or political phenomena, provoking a sense of confusion through surreal or monstrous creations, questioning people's notion of reality.¹⁶

The grotesque can be connected to the carnivalesque as derived from Mikhail Bakhtin's research on the medieval carnival, during which the usual social hierarchies and norms are temporarily suspended. Things that are generally hidden or repressed become visible to all, and thus the carnivalesque can give voice to the marginalised and challenge the standardised.¹⁷ As the Cybersiren continues to transform its body and that of the port, hierarchies and authorities are thus put into

question. The liberation that follows from this can lead to renewal and regeneration. This exemplifies ultimate instability, a necessary trait to queer over time and prevent homogeneity.

The Cybersiren attacks

You see, if there was no resistance, there would be no power relations. Because it would simply be a matter of obedience, you have to use power relations to refer to the situation where you are not doing what you want. So, resistance comes first, and remains superior to the forces of the process; power relations are obliged to change with the resistance. So, I think that resistance is the main word, the keyword in this dynamic.¹⁸

The Cybersiren represents a form of Foucauldian resistance against the constraints imposed by authoritarian regimes that impede the growth, creativity and freedom of expression in the port-sea-city of Napoli. [Fig. 4] A means of resistance is not intended to be a peaceful entity. It does not engage in negotiations, nor does it seek to comprehend the other party's perspective. The Cybersiren emerges when a specific threshold is crossed, marking a point where uniform, striated forms of authority have imposed such control that no other recourse remains. It is driven by the desire for change born out of discomfort and awakening from hibernation, which destabilised the environment before retreating. At this point the Cybersiren is no longer able to contain its profound frustration with the stagnation and uniformity of the systems. This frustration is akin to the concept of power and resistance as elucidated by Foucault. In the contemporary context, there is a plethora of opportunities and an urgent need to act. In order to resist a system, there is no alternative but to attack. The Cybersiren's attacks are characterised by a combination of violence and forcefulness, with the objective of destabilising and disrupting established systems of belief and control. Its actions are fundamentally antifascist, opposing any form of totalitarian control. By revealing and attacking these unseen forces, the Cybersiren facilitates new configurations and forges new alliances.

The Cybersiren possesses the capacity to become invisible, enabling it to uncover concealed structures and forms of authority. The Cybersiren is a force to be reckoned with. It embodies and becomes one with its target, allowing it to move within the same field as the Big Other, a concept representing hidden societal structures. The Cybersiren disrupts our comfortable modes of belief and control, using its siren call to bring hidden authorities into the open, transforming them into spectacles for public scrutiny and ridicule. This process aligns with the ideas of Mark Fisher's *Capitalist Realism* and

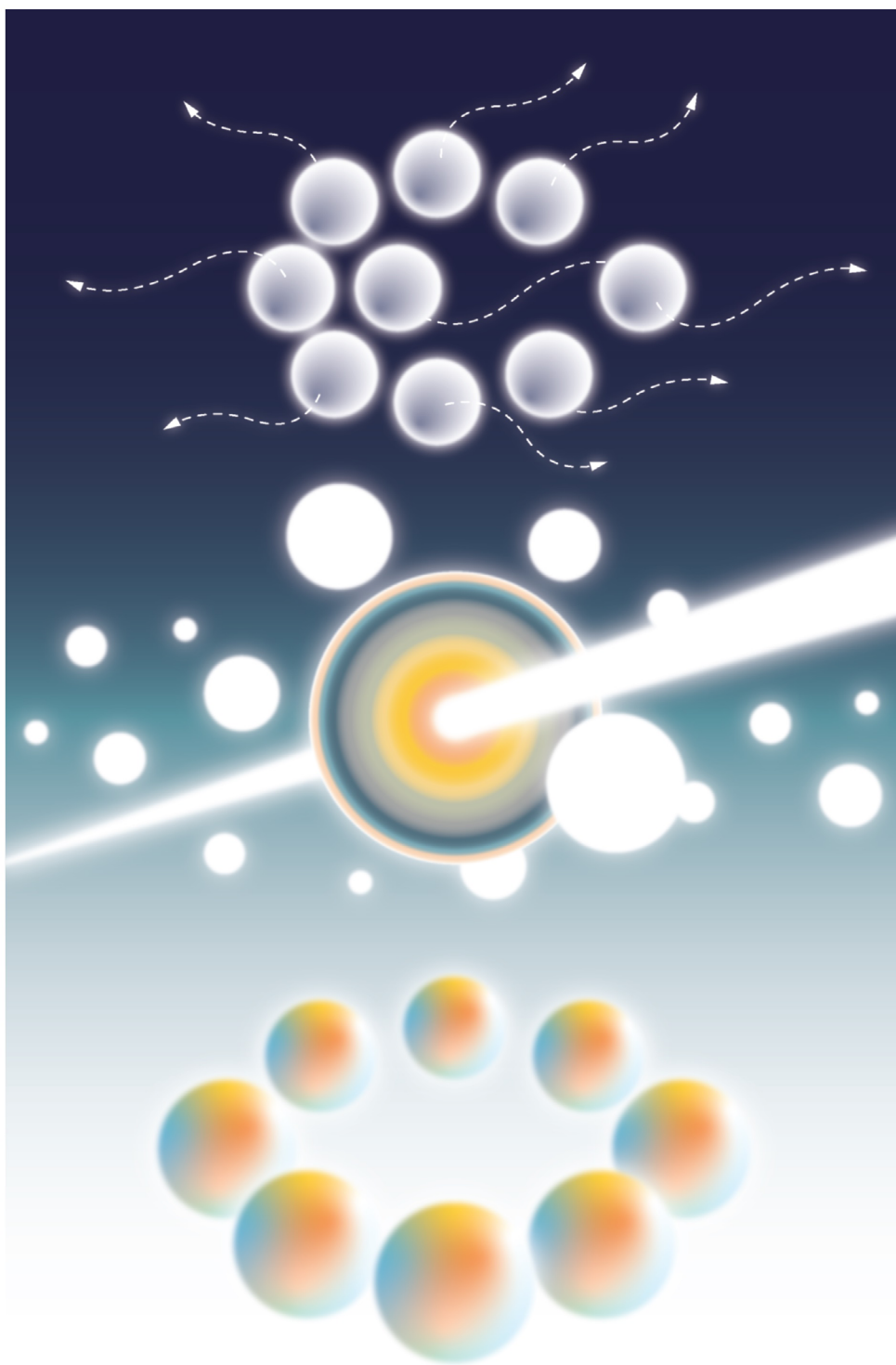


Fig. 2: The Cybersiren is queer. Illustration: authors.



Fig. 3: The Cybersiren is body- and techno-fluid. Illustration: authors.

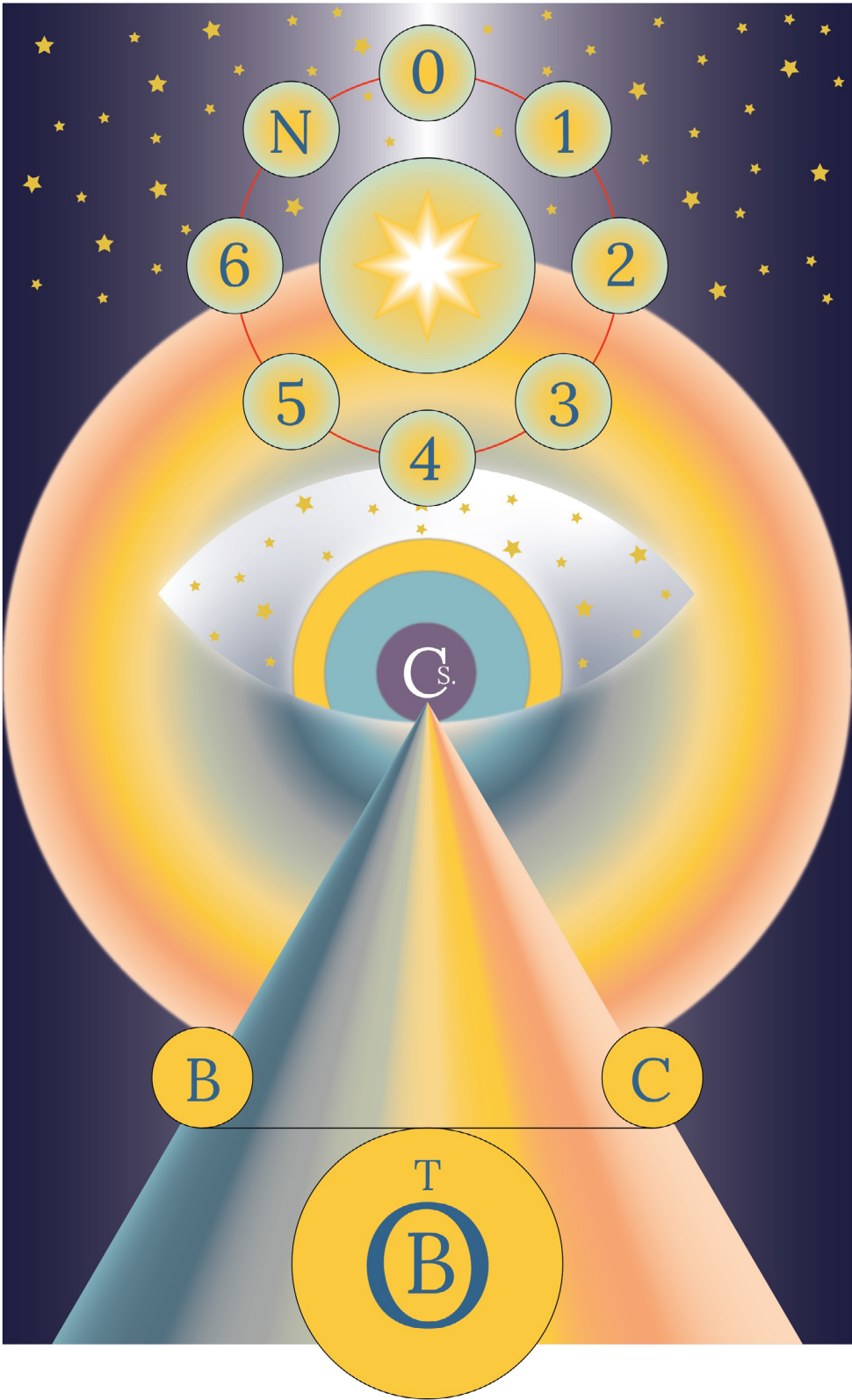


Fig. 4: The Cybersiren attacks. Illustration: authors.

Slavoj Žižek's philosophical approach, which challenge the unseen forces that shape our reality.¹⁹ The Cybersiren forces the public to confront and critique these hidden powers, fostering a more transparent and equitable society. Overcoming the inability that a human would have in addressing this Big Other.

As is its body-fluid, The Cybersiren's' arsenal is always changing. Different forms of attack are used in different situations. One example of an attack is by spitting signage morphing venom. The attack has the capacity to transform and reshape signage, effectively severing its ties to traditional authority structures. The signs now respond to the Neapolitan passer-by, rather than to the established power structures. By disrupting the agents of authority and altering their relationships with belief and control, the Cybersiren rebalances and reshapes the urban landscape of Napoli. This is only one tool the Cybersiren can utilise, aiming to challenge and redefine the symbols and signs that dictate social and political norms. Through this process, the Cybersiren empowers individuals to reclaim and reinterpret their environment, fostering a sense of ownership and agency.

The Cybersiren shatters

The Cybersiren embraces imperfection as an ability to sustain. [Fig. 5] The Cybersiren embodies Kintsugi 2.0, shattering preconceived notions and creates openings in previously closed-off places. When the Cybersiren attacks, the port-sea-city relationship is dissolved into constituent parts. The concept of kintsugi, which involves the repair of broken pottery with lacquered gold, could be a useful model for the reconstruction of damaged relations. The damage is not concealed, but rather, the repair is illuminated. The authority often seeks perfection and seamless continuity; the concept of kintsugi challenges this paradigm by embracing imperfection and celebrating the history of objects through their fractures and repairs. This practice of shattering to re-relate represents a tangible manifestation of the new spirit of the city.

We termed this Kintsugi 2.0, because it is not just about repairing the same relationships, but about creating something new from what was once 'whole', though the segregatedness of the port is evident. This alteration involves making a new form of experience that incorporates parts of the old but is not a mere replica with superficial embellishments. By opening up the membrane and embracing what is traditionally considered 'alien' or 'broken', Kintsugi 2.0 opens up new possibilities of internalisation for creation and appreciation. This makes it necessary to offer a new methodology that acknowledges the intrinsic value of the imperfect and the broken, utilising them as the basis for the new artefact. Just as kintsugi

creates beauty from broken objects, it may be posited that the relations of the sea-port-city of Napoli can be repaired through a dynamic approach.

The Cybersiren breaks and reconfigures. The Cybersiren is not a perfect, fully operational machine; rather, it malfunctions and undergoes reconfiguration on a regular basis, thereby encouraging Neapolitans to assume a more active role in the development of their urban environment. By disrupting established structures and establishing novel connections, it transforms the urban landscape, never manifesting a definitive or fixed form. This process encourages the city's inhabitants to actively engage in the evolution of their environment, fostering a sense of ownership and agency. It is through this continuous breaking and reassembly that a more resilient and adaptable city emerges.

The Cybersiren's actions of attacking and refracting rigid structures of authority and control create openings in things that were previously closed off. These new spaces invite participation and insertion, whether from people, nature or technology. Rather than mere reflection, the refraction brings forth a multifaceted urban tapestry that honours both history and potential. This disruption allows for the emergence of new configurations between systems of belief and control, challenging the status quo and enabling innovative urban practices.

The Cybersiren and ambiguous alienation

The Cybersiren navigates the transitions of the environment and embraces a sense of familiarity through repeated exposure to alienation. [Fig. 6] Simultaneously, it guides us through the liminal spaces between the seascape and the landscape of regeneration.

The capacity to view the city as alien and, consequently, to open up further capacities for producing the new is central to this chronicle. Alienation becomes a productive force, catalysing the redefinition of norms and creating dynamic, responsive spaces. By embracing the alien and the unfamiliar, the Cybersiren fosters a continuously evolving cityscape that is responsive to its inhabitants. The production of relations through events is transformative, making the present a crucial moment for discussing the redefinition of aesthetics and authority. For instance, the Big Other could use some productive alienation. In seeking to comprehend this process, the Cybersiren proposes an aesthetic perception that could be understood to mean not merely the theory of beauty but also emphasising space's emotional and experiential qualities.

The understanding of 'uncanny' and the 'canny' is crucial in reshaping the Neapolitan relationship with the port. The canny is characterised by a sense of familiarity, security, and understandability, while the uncanny evokes

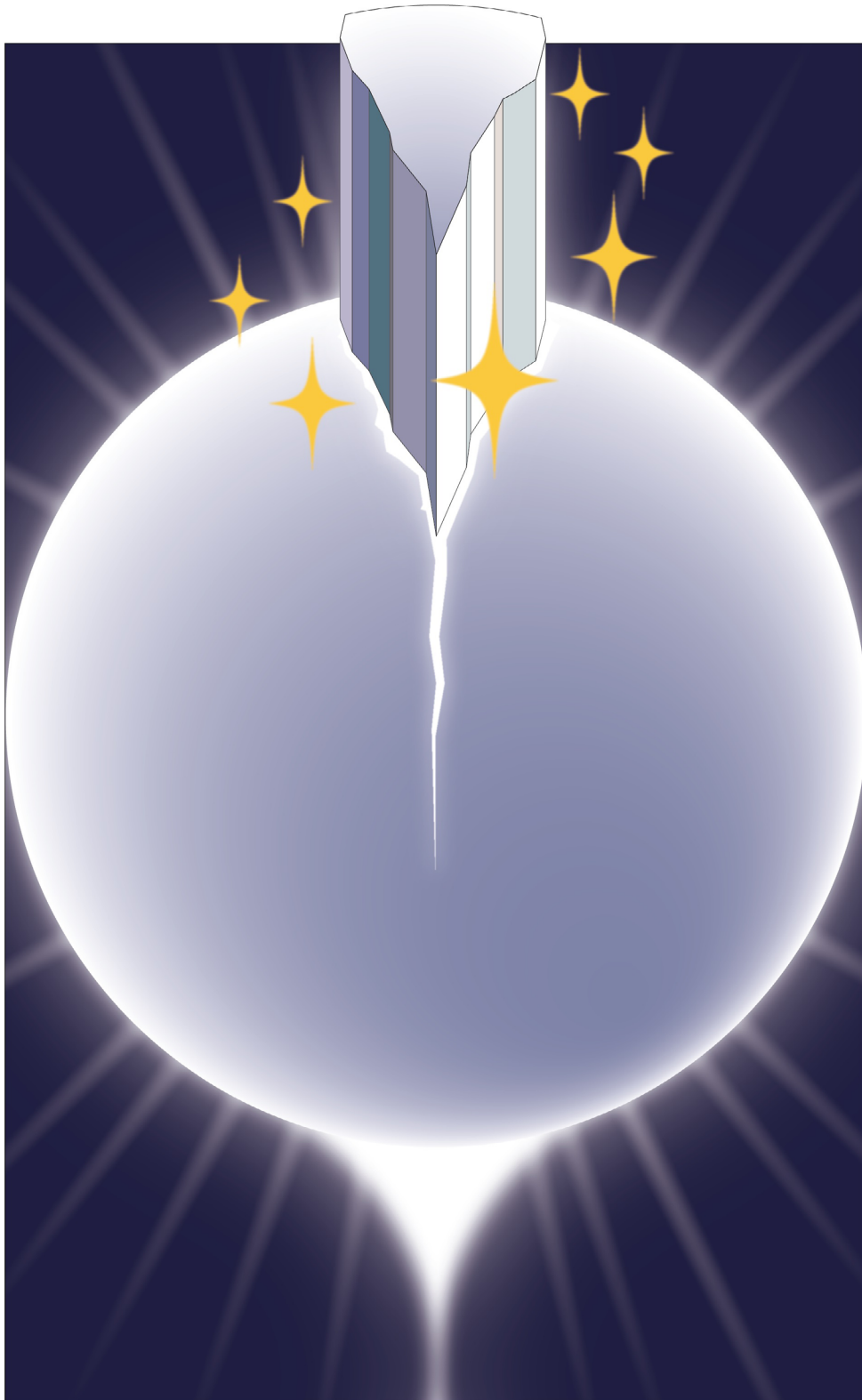


Fig. 5: The Cybersiren shatters. Illustration: authors.



Fig. 6: The Cybersiren and ambiguous alienation. Illustration: authors.

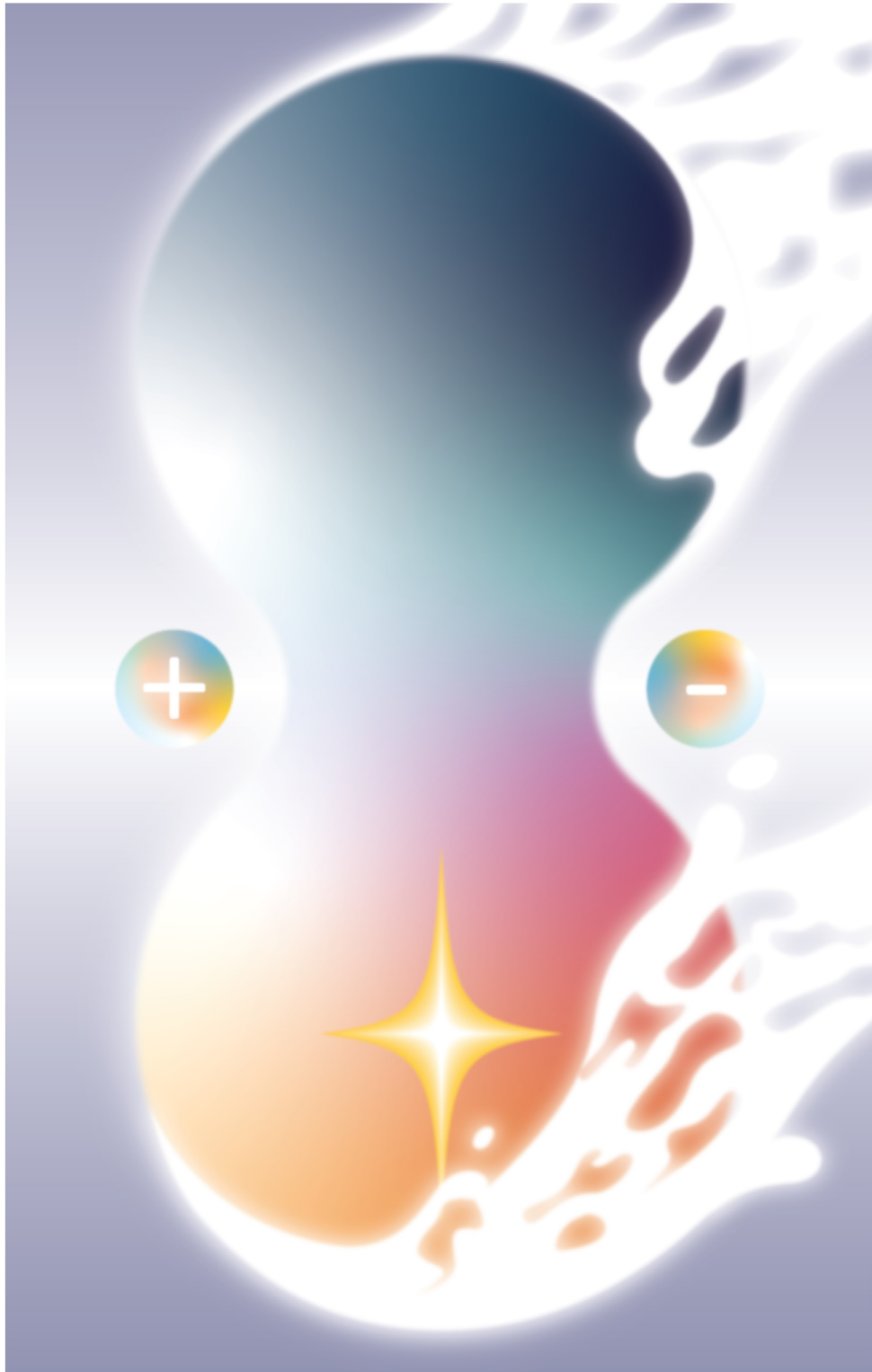


Fig. 7: The Cybersiren dies. Illustration: authors.

discomfort in a context that is perceived as strange. Sigmund Freud's exploration of the uncanny further illuminates this duality. Freud suggests that there are barriers between the two in which a point of departure point is created where the meaning of the two words begins to merge, forming a unified concept. The uncanny characterises the feeling when something unfamiliar is added to the familiar.²⁰ Therefore, a sense of alienation often stems from a lack of familiarity with one's surroundings. By embracing ambiguity, we can begin to distinguish the familiar from the unfamiliar, thereby reshaping our relationship with the environment.

The Cybersiren embraces, hates and produces liminality; the middle stage in a transformative rite, where the subject's feet have left the ground, but the subject is yet not fully transformed. The Cybersiren's disgust with slow liminality, where transformation has halted and turned into inertia, calls it into action, introducing a new rite, where the subject emerges in complete liminality before finding a new scenario in which the alienated can turn into the familiar again.

The sense of familiarity is undeniably important to the locals, providing a sense of comfort that can also lead to stagnation and slow improvement. This may be one of the reasons why the development of Napoli city is not evolving as fast as the technology of the city's port. However, the Cybersiren challenges this dichotomy by opposing exclusionary systems and promoting the repair and reconnection of previously unrelated elements. The transformation of the liminal spaces of the Cybersiren effectively injects the uncanny into the canny, rendering the unfamiliar familiar and meaningful. This mythic entity also serves as a catalyst for shifting perceptions, presenting familiar elements in a way that challenges preconceived notions.

The Cybersiren dies

In her novelette 'The Legend of the Future', Matilde Serao vividly describes Napoli's complex relationship with the notions of love and death.²¹ [Fig. 7] The Cybersiren represents the ultimate embodiment of the intertwining of these two concepts. To reside in Napoli is to engage in a continual process of balancing the forces of love and death. The question arises whether a Cybersiren could die, given that it is both organic and mechanical. To be a Cybersiren is to embody this duality, neglecting neither one in favour of the other. Although one might assume that it could not possibly die, this is, in fact, not the case. It seems like a Cybersiren, due to its mythical origins and mechanical parts and organs, would be unable to die. However, like any myth, the Cybersiren can emerge once again when the need is

there. Since the Cybersiren emerges from the trinity of port, sea and Neapolitans; it wakes up once again when those entities are disconnected. The current state of the port – a striated and uncanny place, leading to the predicament of Napoli and the sea – ignites its birth. Whenever this inertia is resolved, destabilised, brought back in the natural state of disorder, it can die peacefully again.

To defy death would be to defy Napoli as a whole, as it is fundamentally a city of love and death. To be immortal would be to express a superiority over organic life. Immortality is the approach of the totalitarian. To outlast and outgrow death is to assume the position of a god-like being. Such qualities are typically reserved for the sea, which represents only a third of what a Cybersiren is. Instead, a Cybersiren must be maintained, as the mechanical components are prone to failure. It requires maintenance. Although it does not die in the manner of a Neapolitan, it nevertheless dies. In a sense, the cessation of its existence is as significant as its continued existence. The demise of the Cybersiren marks the conclusion of the process. This represents a confirmation of the unfolding situation.

The epic chronicle of the Cybersiren

A containership has just arrived, the MSC Sao Paulo to be precise, bringing nearly 2300 containers to Napoli. [Fig. 8] The ship arrived in the late evening, just as scheduled, but the offloading will only begin tomorrow morning, as early as 05:00. The captain and crew have left the ship and are headed to the nearest pub, to enjoy the brief life ashore until it is time to head for the seas again.

The port is dominated by flows of cargo, containers and capitalism, driven by the consuming demand of the Neapolitan people. The MSC Sao Paulo has brought nothing but cheap plastic gadgets and poorly made souvenirs, ready to be resold to gullible tourists looking for authentic products made in China.

Some sailors still remember stories of the great Neapolitan port told by their great-grandfathers, who were also sailors. They told how alive the port felt; the uproar, the chaos, the Neapolitan lifestyle and most of all; the people. They told how the port was the most important place in the whole city – apart from the palace perhaps – and how port and city used to be one; neither could exist without the other.

These young sailors, some arriving in Napoli for the first time, are rather disappointed by the port they have arrived in. Even though, compared to other cities, the port is so incredibly close to the city centre, they feel just as disconnected and alienated as in all the other



Fig. 8: The emergence of the Cybersiren. Illustration: authors.

industrial ports they encountered before. As the melancholic sailors exit the port, looking for a livelier place to stay, the Cybersiren lies awake in the depths of the sea. It has been awoken, and that is never a good sign. Its threshold has finally been crossed and now the time has come; the Cybersiren will attack once more.

The boiling point has been reached, the Cybersiren is ready to attack. The previous ninety-nine degrees Celsius have been imperceptible to the city of Napoli, but now the water has reached a hundred degrees. The Cybersiren emerges at night when there are few people about, and everybody's attention is low. It happened at 03:32. The Cybersiren shot from the water and made its distinct sound, a sound that was last heard over a hundred-and-fifty years ago. It flew with immense speed and was heading straight for the MSC Sao Paulo. It did not back down or change direction. An unfortunate port authority worker was standing on the closest pier as the Cybersiren clattered into the ship with an enormous bang, leaving a large hole in the metal hull. The worker was knocked out by the sheer violence of the collision. Once the man regained consciousness, he witnessed the Cybersiren flying back and forth like a maniac, he saw containers being flung through the sky like weightless pebbles and he saw the hole in the hull, which had grown rapidly with dangerous cracks starting to appear. The ship was going down. As the man looked at the ship, a dozen containers flew out from the ship, just missing the man's head. Shocked, he followed the containers and saw a gargantuan, impossible structure made out of containers emerging on the end of the pier. Frightened, completely staggered by what spectacle happening in front of him, he stood frozen for what felt like an eternity. What he saw was unlike anything that he'd ever been able to imagine. Just as he almost regained control of his limbs, the man was hit from behind by a dark blue container weighing just over eighteen tonnes, flying towards the tower with the speed of an attack helicopter. The man didn't even notice what happened. Just like that, he was gone forever, and the Cybersiren continued to furiously build for the rest of the night.

Early in the morning, at 04:51, two dock workers walked across the port, on their way to their posts, ready for another day of hard and miserable work. They were the first ones present this morning. As they chit-chatted back and forth during their walk, all of a sudden one of them stopped, looking absolutely petrified; he had seen the Cybersiren. After the first moment of shock, curiosity took over, and they slowly and cautiously walked towards the megastructure, which was still growing every minute. They saw flying containers, tentacles, limbs and fins moving over, around and in the tower, holding the

impossible, gravity-defying structure together. As they approached the tower, the container at the bottom of the structure opened suddenly, almost like an invitation. Both men looked at each other, eyes filled with doubt. Should they enter? Shouldn't they let their supervisors know first, before they do anything else? 'Screw it,' they decide, their boss can figure it out later; besides, some security guard would probably already have alarmed some others. Furthermore, they were Neapolitans, for god's sake. Their life and city were dripping with miracles, what was solid turned liquid every year. They had a living god playing for their football club, they could handle the extra-ordinary. Thus, they entered.

Some days after the emergence of the alien structure, authorities created a large perimeter around it and the entire port was locked down. The Italian military became involved, and the whole city of Napoli was in uproar. It was world news. The city itself entered a low-level lockdown, limiting the influx of people via plane, train and major highways. The Neapolitans had mixed feelings, some people feared Armageddon – after all, an alien had emerged – some saw it as the coming of Christ. More business-oriented individuals were mostly worried about the total freeze of import and export through the port. Others were angry that their stuff was probably stuck in the megastructure. It took up every conversation in every corner of every street and in every family at every dinner table. But most important of all, the city was on edge, and tension was growing by the minute.

The two dock workers who entered the megastructure, after undergoing serious interrogation for almost two weeks, were free to go as there were no laws to hold them. Even though they were told to keep their mouths shut about everything they saw or heard, they could not resist the urge to tell others. After all, what they had seen and experienced could not be ignored. So, that night they met up at Piazza Bellini. They started talking to friends about what had happened inside, and thus, word started spreading. News travels fast in Napoli, and it was only a matter of a day before everybody in the city knew.

This was the tipping point for the citizens of Napoli, they could no longer sit back passively, obediently waiting for the authorities to take action. After all, there hadn't been any successful attempts at entering or communicating with the creature responsible for this massive intervention, nor did the authorities communicate anything with the general public. This megastructure was just there, and it kept on growing and growing, consuming more and more, standing taller and taller, turning more and more grotesque. How could it be that

Napoli had not responded yet? And so, a rebellion grew, starting small but, like gossip, spreading like a flame. Eventually, only a tiny spark was enough to light up the entire city, and so the riots started.

The authorities had long ago seized ownership of the port and sea, restricting all access and creating a full lockdown, but the Cybersiren was a challenge they could not contain. However many barriers they built and fences they put up, the Cybersiren could not be hidden from sight. Every day the Neapolitans had to endure its call, promising a future that was so radically different from the one they were living day in and day out. In all its ferocity and fury, there was something else luring from the depths, enticing, seducing.

So when the riots started, there was no space for nuance. The grotesque promise of the Cybersiren and the stories of the dockworkers, which on their own would already have blown your mind, but had grown to a whole new exorbitant scale, led to a tenacious desire to enter the structure and destabilise the authorities. The first day was violent and unsuccessful from the point of view of the rioters. The authorities had been expanding and diversifying their barriers, creating an almost impenetrable fortress. But only almost. As with all good mythological stories, this one also involves a specific Achilles heel. In the case of the Cybersiren it was its position at the end of the dock, directly connected to the sea, bridging both worlds together. The sea has a unique quality in the sense that it is effectively uncontrollable, as much as the port authorities want to defy that. Although land can be completely fenced off, you cannot build a wall on or around the sea. While we often view the sea as an unsurpassable limit that restricts our movements, with the right technology it becomes a point of connection, opening up endless possibilities rather than closing them off.

After three days of fruitless attempts to climb the barriers, the Neapolitans around the city regrouped. A group located near the seafront realised that the solution was right in front of them. While the land had been completely blocked, the sea was still accessible. Not from within Napoli of course, but from the coastal villages around the city. As they prepared for their final push, old fishing boats were retrieved from long forgotten storage places. The Neapolitans rediscovered their relation with the sea, using it for their own cause. By doing so, their attitude towards the sea changed from that of a passive spectator towards city life into an active participant in the movement of disruption. Old boats were repaired, reworked and re-personalised in ways that only Neapolitans would be able to do. As the authorities were still focused on the streets surrounding the port, hidden

from view a technological revolution was occurring.

The whole of Napoli came together in one last coordinated attack. Gangs of scooters charged towards the barricaded port entrances, attracting the full attention of the guard force present there. At the same time, a second group charged from the sea, a gigantic fleet made up of all different floating vessels and technologies to move on water are used. The authorities only realised their mistake after it was too late. As the fleet entered the port the remaining authorities put down their arms.

As the first people started to enter, the Cybersiren had fulfilled its process. It was only there to disrupt. With the Neapolitans having arrived at the structure, the moment for the Cybersiren to disappear has come. So, what's next?

Afterword

From the moment the two dockworkers exit the Cybersiren structure, the multiverse opens. There are an infinite number of paths this speculative story can go. In this story, this one path has a more elaborate story attached to it, but what about some other scenarios?

What if... the Cybersiren structure became a magnet for tourists, Neapolitans as well as outsiders? It would take less than twenty-four hours for the first gelato or pizza stands to emerge near the site. With the modification of the Cybersiren, maybe the structure will become the new icon of Napoli, is fully appropriated by the city, and the people love it. The birth of the new Maradona.

What if... the people had faith in the authorities' ability to resolve the matter? The dynamic between belief, control and authority would change, but in a direction the Cybersiren did not intend. Its disruption would actually strengthen what it aimed to disrupt. Would that be a negative death? Or is any outcome an outcome, the difference between negative or positive just a matter of perspective?

What if... a full-blown civil war emerged, if the people of Napoli could take it no longer and didn't just riot, but outright attacked the authorities? The event shoots past the point of plasticity, fully breaking the system? What would this bloodbath bring? Or maybe some destruction and true chaos is necessary? If it's the outcome of its actions, the Cybersiren does not mourn; it belongs to no-one, it does what it does.

What if... the riot were just another riot? What if the force caused by the Cybersiren structure was never enough to move beyond the point of elasticity, and things returned to the way they were before the Cybersiren's emergence? Maybe some superficial changes would be made, but nothing is fundamentally rethought, as

so often happens. The ultimate negative death for the Cybersiren.

In the end, the Cybersiren aims to disrupt, disturb and provoke. Once it has played its opening hand, there are a million possible outcomes, but disruption is a certainty. What path will be taken as a result of this anomaly, can only be speculated upon. After all, the Cybersiren has not emerged. Yet.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Notes

1. Paolo De Martino, 'Land in Limbo: Understanding Path-Dependencies at the Intersection of the Port and City of Naples', *AE+B | Architecture and the Built Environment* (2021), 91–108.
2. Paolo De Martino, 'Naples: A City Away From Water', *Planning Perspectives* 39, no. 1 (2023): 179–94.
3. George Hersey, *Architecture, Poetry, and Number in the Royal Palace at Caserta* (Cambridge, MA: The MIT Press, 1983), 24–31.
4. Mario Buonoconto, *Napoli Esoterica* (Rome: Newton & Compton, 1996).
5. Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002), <https://doi.org/10.1215/9780822383574>.
6. Gilbert Simondon, *On The Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis: University of Minnesota Press, 2017).
7. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 474–501.
8. Michael Obrist and Antonietta Putzu, *The Last Grand Tour: Contemporary Phenomena and Strategies of Living in Italy* (Zurich: Park Books, 2023), 438–85.
9. Giuseppe Resta, 'The Belly of Naples and Displaced Meanings, City-as-Body and City-as-Theatre in Commentaries on the Old Town Risanamento: Deconstructing the Stereotype of the Picturesque', *Writingplace*, no 6 (2022): 38–54, <https://doi.org/10.7480/writingplace.6.6353>.
10. Anna Maria Ortese, *The Bay is not Naples: Short Stories by Anna Maria Ortese*, trans. Frances Frenaye (London: Collins, 1955).
11. Slavoj Žižek, *The Pervert's Guide to Ideology*, video, 2:09, 2012, <https://archive.org/details/the-perverts-guide-to-ideology-2012-hd>.
12. Donna Haraway, 'A Manifesto For Cyborgs: Science, Technology, And Socialist Feminism in the 1980s', *Australian Feminist Studies* 2, no. 4 (1987): 7–8, <https://doi.org/10.1080/08164649.1987.9961538>.
13. Yuk Hui and Jorge Carrión, 'A Revolution of Ideas', video, 1:28, CCCB, 22 January 2024, <https://www.cccb.org/en/multimedia/videos/yuk-hui-jorge-carrion/243992>.
14. Tony Fry, 'Fiction Forced Futures', Youtube, 27 min., posted 11 June 2024, <https://www.youtube.com/watch?v=rD3v2T42UX0>; on Lena Boroditsky, 'How Language Shapes Thought', *Scientific American* (Scientific American, February 2011), 63–65. <http://lera.ucsd.edu/papers/sci-am-2011.pdf>.
15. Haraway, 'A Manifesto For Cyborgs', 38–39.
16. Wolfgang Kayser, *The Grottesque in Art and Literature* (New York: McGraw-Hill, 1966).
17. Mikhail Bakhtin, *Rabelais and His World*, trans. Helene Iswolsky (Cambridge, MA: MIT Press, 1971).
18. Michel Foucault, *Essential Works of Michel Foucault: 1954–1982*, ed. Paul Rabinow, trans. Robert Hurley et al. (London: Penguin, 1987), 167.
19. Mark Fisher, *Capitalist Realism: Is There No Alternative?* (London: John Hunt Publishing, 2009).
20. Sigmund Freud, 'The "Uncanny"', in *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Vol. XVII*, trans. eds. James Strachey and Anna Freud (London: Hogarth Press, 1955 [1919]), 219.
21. Matilde Serao, 'On Naples, 1878–1884: Six Translations', *California Italian Studies* 3, no. 1, trans. Jon R. Snyder, (California: eScholarship Publishing, 2012), 15–17, <https://doi.org/10.5070/c331014954>.

Biography

For his masters in architecture at TU Delft, Mees van Rhijn explores queer space in Istanbul, delving into the sociopolitical role of architecture and examining how it brings people and communities together or drives them apart. He envisions queer space as a means to foster inclusivity and transcend dualities.

Jean Rojanavilaivudh received her Bachelor's degree in architecture from the University of Edinburgh. She is currently a master's student at TU Delft, where her work explores material culture, with a particular emphasis on the relationships between humans and non-humans.

Qiyu Chen is a master's student at TU Delft with a Bachelor's degree from the University of Melbourne. He is amazed by Koen, Mees and Miguel's curly hair. He's also a good friend of Jean's.

Miguel Borst is a master's student in architecture at TU Delft, where he also completed his bachelor's degree. His work and interests focus on bridging architectural theory and practice, with a particular emphasis on addressing social issues through design.

Koen de Nie is a curiosity-driven architecture master's student at TU Delft, after obtaining his bachelor's degree there. In his work he emphasises conceptual and experimental explorations and an interest in (architectural) philosophy and theory.

Footprint is a peer-reviewed journal presenting academic research in the field of architecture theory. The journal encourages the study of architecture and the urban environment as a means of comprehending culture and society, and as a tool for relating them to shifting ideological doctrines and philosophical ideas. The journal promotes the creation and development – or revision – of conceptual frameworks and methods of inquiry. The journal is engaged in creating a body of critical and reflexive texts with a breadth and depth of thought which would enrich the architecture discipline and produce new knowledge, conceptual methodologies and original understandings.

Footprint is grateful to our peer reviewers, who generously offered their time and expertise. In this issue, the following papers were peer-reviewed: 'The Transcendental Stupidity of Architecture', 'Cuckoo', 'Everyone Knows Who is Stupid Around Here', 'Overcoming Disciplinary Stupidity: Collective Creation for Diversity and Inclusion in Public Space Design', 'Reconfiguring the Soft Operation field: Architecture of Collective Metabolisms', 'Where Lies the Problem? On the Determination of Belief, Political-Libidinal Proletarianisation and Alter-Automation'.

Issue Editors

Stavros Kousoulas
Andrej Radman

Copy-editor

Heleen Schröder

Layout Editor

Lila Athanasiadou

Executive Editors

Stavros Kousoulas
Aleksandar Staničić

Editorial Board

Esin Kömez
Gert van der Merwe
Victor Muñoz Sanz
Angeliki Sioli
Alina Paías
Dulmini Perera

FP Advisory Board

Stephen Cairns
K. Michael Hays
Hilde Heynen
Ákos Moravánszky
Michael Müller
Frank Werner
Gerd Zimmermann

Footprint is published by TU Delft OPEN Publishing and Jap Sam Books in collaboration with the Architecture Philosophy and Theory Group, Faculty of Architecture and the Built Environment, TU Delft, PO Box 5043, 2600 GA Delft, The Netherlands +31 (0)152781830, editors.footprint@gmail.com

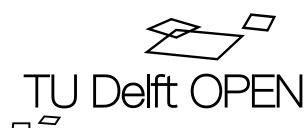
The digital version by TU Delft OPEN Publishing is licensed under Creative Commons Attribution 4.0 International License (CC BY 4.0)



The hard copies, back issues and subscriptions are published and arranged by Jap Sam Books at www.japsambooks.nl

To access online sources referred to in the notes please consult the digital version of this issue available at doi.org/10.59490/footprint.19.1

For the current call for papers and submission guidelines, visit <https://footprint.tudelft.nl>.



JAPSAM BOOKS

ISBN: 978-94-93329-49-2 paper version www.japsambooks.nl

ISSN: 1875-1504 digital version TU Delft OPEN Publishing