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DESIGN SOCIAL

Technology
Activism
Anti-Social

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Gerhard Bruyns & **Peter Hasdell**

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000 INTRODUCTION

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Peter Hasdell
Gerhard Bruyns

04—13

#Design Social

#Introduction

#Technology

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'Social Design' versus 'Design-Social'

The emergence of social media and the networked society, as exemplified by *The Internet of Things (IoT)* (Ashton 1999), generates enormous potential that repositions design as a means to synthesise emerging social complexities into new constellations. One of the ways design in this context becomes reconfigured is as the dynamic interconnections of people, practices, and artefacts. The propinquity of this lineage leads to *relational* rather than *objectified* forms of design. Such approaches tend to be process-driven rather than outcome-based, and activate design's potential within both knowledge generation and knowledge transfer processes. This in itself can be understood as "information" or as *design-before-design* and *design-after-design* that provides pathways for innovation in the development of new processes, systems, networked, and relational outcomes (Deforge and Cullars 1990).

Changes in social systems therefore evolve the ways design develops towards these forms of knowledge, utilising collaborative processes, cross-disciplinary practices (Sanders and Stappers 2008), and new technologies of the social as a means to interlink these domains. Further, as design disciplines and design schools seek ways to respond to broader social changes, there is a need for a new research praxis to engage design processes in social contexts. More importantly, the contextualisation, codification, and definitions that emerge from this emerging praxis, where design disciplines and the *social* form new praxis, constitutes the effective merger of both aspects as *Design Social*. This has the capacity to foster new social forms and social design as a knowledge field in its own right. The merging or intersection of two formerly distinct domains should not, in the final instance, become another ill-defined field of speculation that casts no strong shadows. Social media in the long term may be better understood, for instance, as an anti-social medium. Similarly, the IoT might have a strong role to play in the digital divide despite its apparent promise of integration, breaking down previous constituencies that defined the social within existing hierarchies such as the nation-state, citizenship, and social structures. Instead, it reconfigures the formerly static location-based within temporal and data-driven registers that are more fluid. *You* belong to online communities in this time, but this can change. Positing to what extent the social is a previously engineered construct of the state, it is now being redesigned and reconfigured as a construct that is incorporated and privatised by the service economy? These notions aside, however, critical discourse around this praxis at times seems too suffused with paradigms of positivism, futurism, and the technocratic, particularly as immersed as we are within the rise of social media. How then to approach this somewhat nebulous field, one which is part object, part subject? Moreover, how does the field of design absorb these instances as part of their ways of making, doing, and thinking, not as research by design, or the social, but design being social, first and foremost?

The oversimplification of the social in recent times has been tacked by John Law and Annemarie Mol's approach (Law and Mol 2002). As such their approach is not grounded in how the social relates to complexity, but how the complexity remains within practice, as examined through interventions in medicine, meteorology, ecology, psychology or market volatility. Problematising the social remains a key concern as to how its understanding – formative and operative logics – becomes instrumental in the emergence of a material reality. Additionally, we note in passing the fact that as the social sciences begin to re-evaluate this formerly assumed objectivity, opting instead for embedded approaches such as action research, the necessity for a re-evaluation of critical discourse around such research becomes paramount.

In recent years 'design' itself and its traditional sub-domains have been under a certain amount of pressure that is questioning, eroding and blurring its formerly stable discipline boundaries. As a case in point, participatory design, and the related fields of 'co-design' and 'co-creation', employ methodologies that involve users and stakeholders within the design process as an iterative process of design development (Koskinen and Hush 2016; Krivy and Kaminer 2013). Often misconstrued as a purely design approach, participatory design is in fact a "rigorous research methodology" (Spinuzzi 2005) involving systems of knowledge generation and co-design processes where the interactions of people, design, technologies and practices, steers a course between participants' tacit knowledge and the designer-researchers' analytical or technical knowledge. Used in a broad spectrum of design fields, variations such as participatory planning have become a relatively normal part of urban planning, for instance where social or collective actions have a determining influence on public spaces and amenities, whilst participatory design often engages users and stakeholders within the process. We think here of other concepts where the social and design are challenged in for example the concepts expressed in the notion of 'co-production' (Low and Bruyns 2012, 272):

> [...] *what allows for things to co-exist with-in context of uncertainty. This is where I would situate the practices of co-production. Previously emphasis fell on 'participatory practices'. Co-production discourses, within a horizon of interconnectivity, the possibilities of bringing people and organizations together to* ***co-participate****. The challenge is one of how difference might co-exist...Design agency seems to be a very powerful tool, as something that can mediate and allow for something much more profound, as part of the temporal processes of building participatory practices through co-production* (their emphasis).

However, these processes are often touted as an appropriate conceptual and methodological approach for social design, often lead to the uncritical and lowest common denominator outcome for design whereby the positivistic outcomes of the process overtake. As mentioned by Chantal Mouffe (2007) and also Markus Miessen (2012) criticisms have been drawn on the positivistic and sometimes simplistic nature of participatory design, which led to the lowest consensual outcomes in recent years. As such, the definition of both the uncritical design process methodologies and design outcomes require reconsideration, as well as the roles of users, participants, and designers in the process. To illustrate this, Erling Bjögvinsson, Pelle Ehn, and Per-Anders Hillgren (2012) write that participatory design should move from a conventional understanding of designing things (objects) towards designing "things" (socio-material assemblies), closely allied to the concept posited by Bruno Latour (1999) of *Socio-Material Assembly*. The reformulation in which design is understood as a contextual practice that engages the social, working "in an economy of reciprocity" as commented by Cinnamon Janzer and Lauren Weinstein (2014), generates design-research processes aimed at social innovation, which also points toward the latent neo-colonialism of such practices. The inherent social enterprise and knowledge transfer processes can become strategic directives. As such, these may be able to motivate, to instigate, and drive larger social changes through design and possibly lead to paradigm shifts in the silo-like definitions of conventional design practice. An extended definition of participatory design is therefore a "constellation of design initiatives aiming at the construction of socio-material assemblies where social innovation can take place" (Manzini and Rizzo 2011).

Design in a social context is a complex mesh of tangible and intangible factors. Social forms,

social networks, information, contexts, and people, are able to frame design processes and praxis within inter-disciplinary constructs – or as Low refers to them – as horizontal entities of agency. As difference, the user and designer alliance, remains vertical in comparison. Moreover, this allows for the engagement of a wide range of different sectors, groups, and stakeholders in dynamic communities of practice that can lead design beyond its linear and limited capabilities into new forms of a social as well as a design praxis, whereby design is co-dependent on synthesis as well as analytic practices. Still, who really benefits from this? In what ways does design really impact the commons? What is its effect on transformation within the political and the social in as much as either the emergence of the "commons," as a form of democratic agency in the design fields, or the production of different conditions and concepts are applicable to both design and the social? The question of rights and agency within design, to use and access information and resources, is often promised but rarely delivered. For instance, given the pervasiveness and ubiquity of social media and what might constitute positions – if any – of resistance or difference in social design as manifested by the internet of things, is nothing more than an affirmation of a previous status quo. In a *post-Snowden* era, are there in fact positions of resistance within the technocratic digital domains or does social design point only towards the acceptable and permitted users, subscribers, and the already incorporated? To state that certain social technologies have had a profound impact on political life, citizenship, identity, and social belonging is undeniable. Yet, what are the critical tools available to design that directly alter the manner in which we conceptualise change? Or how can the transformation of "social" and "design", as an interlinked concept of *design-social*, become a potent tool for change rather than as an incremental adjustment?

As a triangulation aimed at the problematising and seeking of critical discourse within the design-social framework, this issue considers a triad of *Activism*, *Technology* and the *Anti-Social*. At its core, the work discussed here aims to challenge the apparent ease with which the design and the social have amalgamated whilst being adapted by many in certain guises and formats within the disciplines of design itself. The trilateral frame here remains a deliberate move away from the "rubrics of everything", from the internet of things to debates surrounding participatory, collaborative, "co" instances, and the uncritical acceptance of the technological in every aspect of the social.

Firstly, evident in both Hong Kong as well as further afield, the emergence of activism has impacted the entanglement of design with the social. Whether in its micro-forms or as a means to engage the power of the "civic" and the digital citizen the importance of design-social in activism, irrespective of material formats, remains a key point of concern. As Beatriz de Costa and Kavita Philip (2008) point out, the entanglement of socially grounded practices, for example in writing literature, sciences, or art as activism, have exploited the availability of "sudden" and "cheap 'do it yourself'" media for information exchange, co-influencing ideas and concepts that is reminiscent of secretive resistance movements of Communist Eastern Europe. They continue:

> *Artists have actively taken part in scientific political and technical controversies forging modes of representation and intervention that synthesize practices from science and engineering and producing fields such as biological art* (da Costa and Philip 2008, xix).

The present-day challenges made to intellectual and experiential capacities – between theorists, designers, philosophers and artists – not only

confronts the possibilities of social media as activism, it constitutes how design-social is absorbed into the ebb and flow of Michel De Certau's *Practices of Everyday Life* (1984). We also note the emergence of *hacktivism* (Jordan 2004) that can be characterised through practices that seek disruption, feed misinformation, and create avatars, fluid identities, or subversion of increasing ubiquity of the digital realm.

Second, the inclusion of the technological in this design-social interconnectivity challenges the merger of design with the social and its various output formats. The reorientation of "life sciences", in either the explicit or discrete junctions of the political, social, science, and design applications bring into question the use of technology when addressing the social valance, in any embodiment of the use of a new mobile device, "app", or virtual reality experience. Further, linked to the aforementioned conditions of activism, technology intended to facilitate participatory or collaborative conditions remains questionable in application through its manners of "democratising" design, and the explicit links between what constitutes "humans", "machines", and "work practices" (Berg 1998). In confirming Berg's position, we are left to once again question if an alternative portrayal of *technology* and *praxis* relies solely on an ontological difference or whether revisiting technology in terms of human endeavour yields an alternative technology-politics in terms of the social.

Third, the antithesis of the social that is represented here as the third and final triangulation point, is defined as the *anti-social*. With the overemphasis of the social in terms of its *bringing together of users*, stakeholders, agents, and their respective agencies, the discussion remains tautological. David Lockwood's original text, *Some Remarks on the Social System* (1956), highlights the varying constellations in which the social emerges. He quotes both Karl Marx and Talcott Parsons[1] (1991) and places emphasis on the social through varying relations and production processes. For Marx, the social remains a question of competing economic interest groups. For Parsons, it is defined by a difference of individuals in terms of social superiority and inferiority based on a dominant system of values that are socially driven (ibid. 138). The inclusion of the anti-social is not a call for a return to equate design-social with a new interpretation of Marxist or Parsonian socio-economic perspectives, nor does it attempt to politicise design. Its inclusion is meant to highlight how design positions respond to pressures from within the social, linked to the social, but what is de facto anti-social. The rise of mobile phone addiction (Ling et al. 2005), the influence of social media on violence (Barker and Julian 2001), and rise of the "starchitect" (cf. Kanna 2011) all in some way or another represent a sub-condition that underscores the design-social question.

Re-visitation of nuance and seeking differences in opposed position situates *activism*, *technology*, and the *anti-social* as complementary proxies to larger design issues and the notion of design-social. Moreover, this idea adds to an on-going discourse that seeks difference through practice, that become tactical and critical intrusions into the field that equally manifest either theoretically or through their application.

Design-Social contributions

This issue on *Design-Social* contains 12 contributions from a range of discourses.

Arie Graafland's contribution to the design-social issue, questions the use and role of the social through his concept: the *socius*. His overview of mapping practices reframes the various "how" and "why" of a number of socially driven approaches to mapping, which goes beyond a mere discussion on "technique". He

highlights how this has impacted the pedagogical structures in tertiary institutions such as The Delft University of Technology and their city driven agendas.

Khaya Mchunu and **Kim Berman** examine the arts and visual participatory methods as tools to facilitate the experience of rural design actors in a co-design process. The use of a "collective" process that involves handcrafting to reveal the development of their personal agency, constructs forms of ownership through design. Their work advocates the use of arts and visual methods to enhance capacities of reciprocity, creative thinking, and ownership through the co-design process.

Gerhard Bruyns' paper links the design of the social to the urban scale, and in particular socially inspired urban models. His overview of urban sociologists and their influence on the formulation of urban models highlights the impact of the social within spatial planning of cities and territories. The conclusions reached expose the gradual omission of the social within planning and, as a consequence, what other forces take over in its place. The work calls for a need to reposition a social program in planning at governance, territorial, and neighbourhood levels.

"Activist Artists" **Kacey Wong**'s pictorial essay, addresses an ongoing debate into the use of social media as a platform for activism. The work highlights the *technological* versus the *untechnical*, locally mechanised by activist-artists in their specific ideological plight. The work forms a commentary on what types of technology are currently in use and through which media.

Luke Tipene's pictorial essay addresses a unique category of architectural drawing that depicts spaces that *cannot* physically exist. It suggests that this specific mode of drawing plays a significant role in the production of meaning for the social, by portraying ephemeral characteristics of social relations. Harnessing Michel Foucault's heterotopic mirror and Henri Lefebvre's notion of the production of space, Tipene challenges the aspects of the ephemeral and the social through each of the six images he discusses.

Patrick Healy examines the Temple of Zeus at Olympia by Max Raphael. The Temple of Zeus at Olympia is often cited as the canonical example of Doric temple architecture. Raphael examines how a particular design can have such far-ranging influence, to which end he elucidates the relationship of design to the activity of a participatory and democratic process specific to the Greek polis. Healy discusses a highly dialectical analysis of the various forces at play in both construction and the elaboration of the spatial artefact, in the view to advance the academic understanding of "classical art" by addressing the social, spiritual, and material dimensions at play.

Simone AbudMaliq's text investigates what the social does in its "lived" context as phenomena. The simultaneous oscillation in a number of worlds, crystallises a need for adaptable research methods. With Indonesia as case, his text discusses habitual ecologies in both the superblock as well as the slum. His position on the social commences with an investigation of household strategies, in how these acquire, finance, adapt, and inhabit residential space as a range of flexible tools for the social. In this light, design is fundamentally tied to the decisions and strategies of the social.

By questioning the concept of the *Visual Soliloquy*, **Marko Stanojevic** ameliorates the introverted conditions of design and how the same intentions are materialised in

communication design. The pictorial essay re-presents a series of graphically designed works, each with a specific personal intent, yet driven by other notions and types of societal conditions. The work remains part and parcel of the question of the anti-social in its premise and in its manner of internalised "self-branding".

Using the design-build work conducted over many years, **Peter Hasdell** repositions the role of social in design processes. The replacement of the participatory approach within design, with action-led-social initiatives, and the necessity of negotiation as a paradigm shift finds a particular valance in specific communities. In parallel, this approach induces new socially derived knowledge transfer skill sets, which were not initially imagined.

Jamie Brassett seeks to clarify the social's position against the "different ethics", through the work of Baruch Spinoza and Gilles Deleuze. The article calls for an affective design, that operates through the process of establishing ethical ontologies. As such, his contribution aligns affective, ethical, and ontological design for social bodies. This text forms an important contribution, and explores the more phi-losophical position within the design-social question, and the importance of other tangential forms of research to help provide alternative positions to both design and the social.

Hanna Wirman's contribution discusses existing digital games developed in Hong Kong that serve the local community. The work addresses educational, social, and environmental issues, and discusses the fourteen existing game domains, each with their particular themes and learning outcomes. The discussion concomitantly points towards the potential of games as social innovations for both Hong Kong and urban social landscapes further afield.

Finally, **Lukáš Likavčan** presents the idea of multispecies diplomacy within the framework of unstable and violent political geographies of the Anthropocene. By clarifying the notions of sympoiesis and habilitation the text then delves into conditions and intricacies in the current militarisation of the environment, and therefore the militarisation of the design-social. The paper further addresses the design-social relationship in terms of its conclusion on ecosocialist politics that engage in multispecies diplomacy.

In its totality, and through this broad spectrum, we hope to elude to other voices within this realm of design-social approaches. Moreover, in this overview we hope to foster new perspectives on the question of design-social, amalgamate new possibilities of research, and more importantly, develop new avenues for design and its dependency on the social.

Notes

1. Parsons original work on *The Social System* was published in 1951 in London by Routledge & Kegan Paul, Ltd.

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Bio

Peter Hasdell is an architect and academic who graduated from the AA and University of Sydney. He has taught and practised in more than six countries including Australia, the UK, Sweden, Canada, China and Japan and has taught in the Bartlett School London, University of East London, Columbia University NY, KTH Stockholm, Berlage Institute Rotterdam, HKU, Manitoba and other schools. Associate Dean, Associate Professor, Discipline Leader for E+I, Director of the Design Social research initiative and year 4 Capstone Coordinator. With more than 20 years of teaching, he has expertise in the fields of architecture, urbanism, participatory design, public art practices, interactive arts, environmental design and social design. His most recent publication is titled *Border ecologies : Hong Kong's mainland frontier* (Birkhauser 2017).

Dr. ir. **Gerhard Bruyns** is an architect and urbanist. He is Assistant Professor of Environment and Interior Design, School of Design at the Hong Kong Polytechnic University, Hong Kong. His research deals with the aspects of spatial forms and how this impacts both the formal expression of the city and societal conditions that are compressed into an urban landscape driven by speculation and excess. He has published on design strategies for neoliberal landscapes, exploring what this means for concepts as the 'square foot society' and models of urban dwelling and planning. In 2012 he co-edited *African Perspectives [South] Africa. City, Society, Space, Literature and Architecture* (010 Publishers: Rotterdam) part of the Delft School of Design Publication Series. In 2015 he was co-editor of Issue #16 of Footprint: Delft Architecture Theory Journal entitled: *Introduction: Commoning as Differentiated Publicness* (Jap Sam Books 2015).

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Figure 1 (this page): Temple Street desigm-social-activism, year 1 students Environment and Interior Design, School of Design, the Hong Kong Polytechnic University: Source: *Daniel Elkin (and Peter Hasdell), 2018.*

001

Figures of Thought and the Socius: Design, Creative Mapping, & Education

Arie Graafland

14–33

Starting from a faculty wide discussion on teaching architecture and urbanism in the nineties at the TU Delft, Faculty of Architecture, I develop a brief historical overview of more recent planning and mapping techniques. During the many meetings at the faculty, discussions swept from 'architectural' approaches, to 'computational', to 'urban', and 'scientific'. Although more professional experts were involved, coming from Maastricht University where new teaching models were introduced earlier on, the meetings never ended in a consensus on how to teach urbanism. What seemed to be lacking was a more historically informed approach. I use James Corner's four approaches to mapping techniques to show not merely a 'technique', but the 'how' and 'why' of a particular approach. Every planning technique creates its own 'social field' in which it operates: the socius.

#Socius

#Mapping Techniques

#Education

#Teaching Models

#Urban Design

Pedagogical models and approach to the socius

More than two decennia ago, starting in the 1990s, the Architecture faculty at TU Delft in the Netherlands experimented with a new teaching curriculum called "problem-based learning" (PBL), a model that corresponds with a medical teaching model. The model was initially developed at McMaster University in Hamilton, Ontario, in Canada, and implemented at Maastricht University in the faculty of Health, Medicine and Life Sciences in the Netherlands. By actively learning in smaller groups the students acquired knowledge and skills. The idea is based on how human beings neurologically acquire knowledge in an active way. The acquired knowledge is always related to the practical condition of the discipline, and is, apparently, a perfect model to teach medicine. The anthropologist Rachel Prentice discusses this model in relation to anatomy as an initiation into medicine (Prentice 2012, 83). The approach allows instructors to build dissection around specific clinical cases or problems. Medical schools have hotly debated the benefits of this situated learning, she writes, in which the debate focuses on the completeness of a highly structured approach by lectures versus the clinical relevance of a problem-based approach. Proponents of the traditional anatomy course argue that problem-based learning is good in theory, but leaves gaps because students are not exposed to the entire body during clinical work. The issue is about whether the definition of immersion constitutes immersion in terminology, terms and structures, or in human cadavers.

The Department of Architecture in Delft also considered implementing the idea of problem-based learning in its curriculum. However, a critical report from a national review committee concluded that the curriculum neglected the technical and scientific aspects of the study (Bridges 2007, 757). *Bouwkunde* (the Faculty of Architecture) at the time were still experiencing the anti-hierarchical and educational changes from the late '70s, in which the student movement's direct democracy resulted in greater freedom of choice for students. In turn, this resulted in "the land of free choice," and students doubled up the same courses over, and over again. Freedom of choice allowed students the freedom to choose their mentor and studio. As a result, some teachers were always overdrawn, and some did not get enough subscriptions to run their studio and were left empty-handed. Budget problems played an important role as well. *Bouwkunde* did not have much of a choice left—either they change the curriculum or face the closure of the faculty. In 1990, the first students started the new curriculum, and at the time *Bouwkunde* had about 2,400 undergraduates—one of the largest undergraduate classes in Europe. A huge ship had to change its course.

> *The decision to implement the innovation was basically a top-down decision, necessitated by on-going and inconclusive debate in the faculty. The key factor which motivated the choice of Problem Based Learning (PBL) was the attractiveness of a high numerical efficiency in the PBL program in the medical curriculum in Maastricht, and the Faculty Board, guided by an interim faculty director, pressed the Council to agree to the proposal.* (Graaff and Cowdroy 1997, 169).

The University of Limburg provided a preparatory course for instructors before Bouwkunde implemented the new curriculum. There was only a six-month period before implementation. In the group that I participated in, instructors compared the human body to the "architectural body" or "the architectural body of knowledge". Until now, many design studios were structured along the type of object; for instance mass housing, public buildings, villa architectures, interiors, urban design, landscape etc. In the first two

years in Delft students learned the basics. Like in medicine, all specialisations have a place in the curriculum, but there is no equivalent to anatomy as initiation. Architecture students do not take apart buildings. They do not build anything during their studies. Practice is mostly far away and starts when they graduate and begin office work or join government jobs. In the last two years students had more freedom; the last year was basically a freely chosen project supervised by two or three disciplinary mentors: architecture, construction, and an urban mentor. The new teaching curriculum encountered not only much resistance, also failed due to the old problem of the different "approaches" the mentors had in mind. The philosophy of PBL was not understood by most of the faculty, writes Erik Graaff and Rob Cowdroy (ibid). Indeed, like in Prentice's example, some teachers argued for the "complete body of architecture," or an encyclopaedia of architectural examples much like typological research, while others argued for a more situated knowledge –"the house", "the city", and "the wet cell". The discussions could not get any further since the different approaches could not agree with each other on what the "body of architecture" should look like, and how to "combine" and work together. The idea that "house", "city" and "wet cell" might be related to more historical and critical issues faded in many discussions. These difficulties might have been personal to some extent. However, the more serious issue was that the body of knowledge itself could not be defined. And worse, no one was really interested in doing so. Some wanted to explore a more "scientific" way of research and design, sometimes derived from gross cybernetic thinking, sometimes from the old paradigm: the more sociological, political, and urban considerations. A large group defended a more "architectural", "creative", or "artistic" way to work, which created a circular definition of the problem where no concept could be found to tackle the problem of design knowledge and how to teach it. Design mentors had to learn their new roles and take a more modest position since the students were supposed to take responsibility for most of the work themselves. Students were more interested in design assignments than in their "self-study". Discussions swept from vocational to scientific, to creative, to artistic to computational. The computational turn had not yet been realised in design teaching. In the current situation, this makes it even more complicated.

In the end, it remains a question whether the "old" system, under a new name, prolongs its life. I therefore ask: where are we now? Is it any better now? This issue of Cubic Journal (2018) suggests otherwise.

The socius as figures of thought

I will focus not so much on debates in architecture or urban design strategies. My intention here is to briefly discuss what, in the early 1960s, was called "the drift", the more current process of layering, the participatory process of the gameboard, and the rhizome. The rhizome is the most complex since it comes from a philosophical figure of thought and not from urban strategies.

These four different strategies are common practice in many urban plans and development strategies in design schools, although explicitly intended fragments and similarities are not always there. For instance, many design studios take students out for site visits. "The drift" is a strategy that implies much more than just a site visit. It was conceived of as a counter movement that addresses design principles of the Modern movement. "Layering" is related to a post-modern society and also addresses late-modern design principles in developed countries. In this case, a competition entry by Bernard Tschumi and Rem Koolhaas (OMA) for Parc La Villette in Paris, the

same grounds the Situationists earlier addressed with their *dérive* or drift. Game-board strategies are discussed in the work of Raoul Bunschoten's CHORA-practices, already here we see another society addressed: Bucharest in Romania. The fourth strategy is said the most complex; a 'rhizome' is an open-ended, indeterminate strategy that refers to a philosophical concept developed by Gilles Deleuze and Felix Guattari. It is closely related to perceptual issues that relate to the drift, and the contemporary *flâneur,* which mainly deals with highly developed countries. Whether this rhizome strategy will work in "under-developed" countries is still to be seen. With this discussion on the four strategies, I want to address not just "a method", but also the "how" and "why" of the strategy. Design strategies are born in a certain period of time, and they address urban problems, as well as society as a whole. They are never "innocent", nor are they completely "objective". They are bound to different ideas about society and have different concepts of complexity.

In the conclusion of his article, "The Agency of Mapping: Speculation, Critique and Invention", James Corner directs attention to the failure of the bureaucratic regime of city and landscape planning with its traditional focus on objects and functions, which has failed to embrace the full complexity and fluidity of urbanism and of culture generally. In authority and closure, current techniques neglect to embrace the contingency, improvisation, error, and uncertainty that inevitably circulate in the urban condition. Corner (1999, 251) states:

> *Given the complex nature of late-capitalist culture, together with the increased array of competing interest groups and forces, it is becoming more difficult for urban designers and planners to play a role in the development of cities and regions beyond scenographic or environmental amelioration.*

There is no shortage of theories and ideas abound. However, the problem is with the "translation" from these theories into meaningful design practices and new operational techniques. The difficulty today is less a matter of a crisis of what to do than of how to do anything at all, Corner argues. As he outlines this difficulty, his contribution is interesting, and a very relevant beginning point for the problems we face in urbanism and architecture alike. Throughout his article, Corner stresses the importance of *mapping* as a creative process, which is particularly instrumental in construing and constructing lived space. Mapping has less to do with a mirror of reality than with the re-shaping of the world in which we live. Mapping can unfold potential, it re-makes territory, and it can uncover realities previously not seen or unimagined. In this sense, it is a creative practice much like science. The capacity to reformulate what already exists is an important step, but what already exists is not given in perception alone, it includes natural forces, historical events, political interests, and programmatic structures. In the end, mapping should relate to socio-political issues; constructing maps without this perspective will again address and confirm that which already exists. As Corner would describe the problem, conceptual issues characterise this reformulation, and make a setting for eidetic physical worlds to emerge. Nevertheless, we tend to view maps in terms of what they represent and less in terms of what they do.

We should not overlook the durational experience and the effects of mapping itself. Landscape or space is not something given or external to our apprehension; it is *constituted or formed through our participation* with things, material objects, images, values, cultural codes, cognition, and events. Space is subjectively constituted, which makes the map more of a constructed project than of an empirical description. The map is employed as a means: effectively a

substantial re-working of what already exists. In Corner's sense, maps have very little to do with representation as depiction. They are involved in a double operation—to find and expose on the one hand, and to relate, connect, and structure on the other. Contemporary mappings do not represent geographies or ideas, as Corner writes, but rather they effect their actualisation.

Historical maps have always been caught in the dialectics of "true and false". For instance, throughout the age of exploration, European maps gave a one-sided view of ethnic encounters, J.B. Harley writes (1988, 292). These maps supported Europe's perceived God-given right to territorial appropriation. European atlases promoted a Euro-centric, imperialist view, Harley writes. He shows that natives are shown riding an ostrich or a crocodile, engaged in cannibal practices, or as on one French map of the eighteenth century, included a race of men and women with tails. Female sexuality in the depiction of African woman and allegories for America and other continents, are often explicit for the specious benefit of male-dominated European societies, according to Harley.[1]

Yet, our contemporary world changes at such speed and complexity that nothing remains certain or stable. Many people live in a world where local economies and cultures are tightly bound into global ones. Surrounded by media images and an excess of communication that makes the far seem near and the shocking merely normal, local cultures have become fully networked, Corner (1999) writes. Interrelationships and effects are becoming of greater significance for intervention in urban landscapes than compositional arrangements. Part of globalisation is our network of microelectronics and communications technology, which might change local interests in a very short time span, and even change our notions about nature and society. 'Communication', as a commonly used term, has changed its meaning. 'Digitalisation' as part of globalisation has changed our outlook of the world. Most of this communication travels at unimaginable high speeds, yet the "means" are not to be separated from the contents, especially not in design practices like architecture and urbanism.

Cyberspace in particular forces human beings to re-conceptualise their spatial situation inasmuch as they experience their positions in cyberspace only as simulations in some "virtual life" form, as Timothy Luke argues (Luke 1999, 27). His argument is that we might need another reasoning to capture these digital worlds. The epistemological foundations of conventional reasoning in terms of political realism, as we find them in notions about city and countryside, are grounded in the modernist laws of second nature. In taking up the notions of "first" and "second" nature, Luke defines the "third nature" as the informational cybersphere or telesphere. Digitalisation shifts human agency and structure – and to this effect "the social" – from a question of manufactured matter to a mere register of informational bits. Human presence gets located in the interplay of the two modes of nature's influence. "First nature" gains its identity from the varied terrains forming the bioscope / eco-scape / geoscape of *terrestriality*, according to Luke. Our traditional notions of "space" are under pressure, and it might be wise to first see how that has changed before we go on to different mapping techniques using different notions of time and space. Ideas about spatiality are moving away from physical objects towards a variety of territorial, political and psychological social processes that flow through space, as Corner (1999) argues.

One of the most concerning aspects within the socius remains that of space. Starting from the standpoint of the geographer, David Harvey (2006, 121) argues for three different conceptions

of space —*absolute space*, *relative space*, and *relational space*. He connects his differentiations to the distinction Henri Lefebvre made: the perceived space of materialised spatial practice, the conceived space he defined as representations of space, and the lived spaces of representation. Harvey's work on how to understand this complex concept of space started in 1973 from a social dimension, with the publication of his book Social Justice and the City. The essay I will refer to here was published in 2004.[2] The influence of Gottfried Wilhelm Leibniz and Alfred North Whitehead is there. Harvey discusses a notion of relational space in the manner of Leibniz. He makes a distinction between these three different conceptualisations of space, which are all relevant for the topic of mapping urban complexity.

The interesting connection Harvey makes is to Lefebvre's work. Through the work of Ernst Cassirer, with whom he claims Lefebvre might have been influenced, Harvey relates the different notions of space. Cassirer set up a tripartite division of modes of human spatial experience, distinguishing between organic, perceptual and symbolic spaces. Organic spaces are all those forms of spatial experience given biologically and registered through the particular characteristics of our senses. Perceptual space refers to the ways we process the physical and biological experience neurologically and register it in the world of thought. Symbolic space on the other hand is abstract and generates distinctive meanings through interpretation. Harvey believes that Lefebvre draws upon Cassirer when constructing his own tripartite division of *material space*, (the space of experience and of perception), the *representation of space* (space as conceived and represented), and *spaces of representation* (the lived space of sensations, imagination, emotions, incorporated into our daily life). Spaces of representation are part and parcel of the way we live in the world. We represent it by images, photos, artistic constructions, urban game-boards, mapping techniques and architecture. Harvey suggests a 'speculative leap' in which he places the threefold division of absolute, relative and relational space-time up against the tripartite division of *experienced*, *conceptualised* and *lived* space identified by Lefebvre. Although the matrix that is constructed or conceptualised in this way might have restrictions, it is at the same time interesting to see what it might contribute to an understanding of a mapping project.

The first spatial concept is called *absolute space*. Here space is fixed and we record or plan events within its frame. It is the space of Isaac Newton and René Descartes, and it is usually represented as a pre-existing and immovable grid that is amenable to standard measurement and calculation. It is the space of cadastral mapping and engineering practices. It is the space of measurement, more and more accurate up to measurement from space satellites. In many cases, it is the notion present in more traditional ideas about planning and urban design. The second and *relative notion of space* is associated with Albert Einstein's work and non-Euclidean geometries that were developed in the 19th century. Referring to Carl Friedrich Gauss and in particular to Leonhard Euler's assertion that a perfectly scaled map of any portion of the earth's surface is impossible, Harvey shows that it is impossible to understand space independent of time. We can create completely different maps of relative locations by differentiating between distances measured in terms of cost, time, modal split, networks and topological relations, he writes. Furthermore, the standpoint of the observer plays a critical role, an idea that is also very present in Corner. The third, *relational concept of space,* is most often associated with Leibniz. This concept of space is embedded in or internal to process. Here it is impossible to distinguish space from time. The last notion implies the idea of internal relations; external influences are internalised in processes through

time. Measurement becomes more and more problematic once we come closer to the world of relational space-time. This last notion is the one Whitehead and Deleuze are interested in. Harvey's point is to use these three notions of space in the same field, that of the geographer. In that sense, as all three notions play an important role irrespective of their different ontologies.

Four thematic approaches; first, the "drift"

James Corner distinguishes the four thematic ways in which new practices of mapping are emerging in contemporary design and planning, each relating to different notions of time/space. The four thematic ways include: *drift, layering, game-board*, and *rhizome*. The first one, the drift (*dérive*), is related to the Situationist International (SI) activities in the 1950s and 1960s in Paris. The Situationist International was "established" (established being the wrong term for it since they rejected every form of establishment), in 1957, when eight delegates met in an obscure bar in Italy. Simon Sadler (1998, 4) writes:

> [...] *the delegates represented two key groups—the International Movement for an Imaginist Bauhaus, and the Lettrist International, a literary group. A third group, the London Psychogeographical Association was represented by its only known member, Ralph Rumney.*

This meeting was a rather fruitful conjugation of odd bedfellows, according to Sadler. The Lettrist International (1952-1957), dominated by Guy Debord, was inclined towards the minimal and conceptual, rather than the visual. The founder of the Imaginist Bauhaus (1954-1957), Asger Jorn, on the other hand, preferred a hands-on, expressionist approach to the production of art. The Lettrist International was urban, based in Paris, while the Imaginist Bauhaus was located in the Italian provincial towns of Albisola and Alba. In September 1956, the Alba congress was held. Representatives from eight countries met to lay the foundations of their organisation. Gil Wolman was added to the editorial board of Eristica, the information bulletin of the Imaginist Bauhuas, and Asger Jorn became a board member of the Lettrist International (Knabb 1981).[3] The COBRA group (1948-1951) had a formative influence upon Situationism through the artist Constant. In Paris, Debord moved away from Lettrism's esoteric exploration of language into a more revolutionary urban endeavour. Sadler, in his book *The Situationist City*, deals with the early Situationist program and shows how the program changed from its origins in the Lettrist International and Imaginist Bauhaus, into their first World Congress of Free Artists in Alba, to the Situationist International proper which spread to various countries. Notably, none of the main players were designers or architects by profession. Their opponent was functionalism, which to their minds was played out and fused with the most static conservative doctrines like in Harvey's absolute space conception. The Situationists felt that social progress did not subsume the individual, but had to maximise his or her freedom and potential.

The drift is not just another way of microscopic attention to city life; we cannot strip it from its political content. Using it as another way to explore the city, as in many design studios, is against everything the Situationists stood for —the revolution of the working class and an overturning of power. The *dérive* entails playful, constructive behaviour and awareness of psycho-geographical effects, which completely distinguishes it from the classical notions of the journey and the stroll, Debord (1981, 50) wrote in 1981. The drift is characterised by its letting go, but at the same time by its opposite: the domination of psycho-geographical variations

by the knowledge and calculation of their possibilities. Psycho-geography conveyed a desire for rational control over ever-greater domains of life, Tom McDonouch (2002) writes in his Introduction to his textbook on Debord and the Situationist International. Psycho-geography was a way to systematise, and to consciously organise what the Surrealists still experienced as merely random. Chance plays an important role, but the action of chance is conservative and progress is nothing other than breaking through a field where chance holds sway by creating new conditions more favourable to our purposes, Debord writes. However, Situationism was not alone with their critique on society and modernist planning. Indeed, COBRA, Jane Jacobs and Lewis Mumford, the British Independent Group, which met from 1952-1955 at the London-based Institute of Contemporary Arts (ICA), and the Smithsons all worked on comparable lines. *Potlach*, the journal of the Lettrist International introduced the nexus of ideas of which the drift (*dérive*) is only one. Sadler's book is organised around the five most important issues that were present in the Situationist's vocabulary—*psychogéographie* (psycho-geography), *détournement* (diversion), *dérive* (drift), *situations* (situations), and *urbanisme unitaire* (unitary urbanism). *Détournement* was a way to negotiate Pop Art, for instance, Richard Hamilton's famous photo collage was opposed by Jorn's and Debord's *Fin de Copenhague* (*End of Copenhagen* 1957). *Détournement* (Internationale Situationiste #3 1959, 55)[4] is the reuse of pre-existing artistic elements in a new ensemble, and the two fundamental laws of *détournement* are the loss of importance of each detourned element and at the same time the organisation of a new meaning (Knabb 1981).

The important Situationist term "situation" is considered the concrete construction of temporary settings of life and their transformation into a higher passionate nature. The definition of "situations" was related to Debord's critique on the spectacle, which elevates sight to a special place once occupied by touch. The spectacle is in turn related to Karl Marx's commodity fetishism, where the perceptible world is replaced by a set of images that are superior to that world yet at the same time impose themselves as eminently perceptible (Debord, 1995, thesis 18 and 36). The spectacle is capital accumulated to the point where it becomes image, writes Debord (thesis 34). Sight is the most abstract of the senses, the most easily deceived, and the most readily adaptable to present-day societies generalised abstraction. The idea is closely related to *unitary urbanism*, where the arts play an important role. Situations should be integrated in the composition of the complete environment. A new architecture should address the atmospheric effects of rooms, corridors, streets, and atmospheres linked to the behaviours they contain.

Ultimately, situations are more about emotionally moving situations, where we use all our senses, than about form. Unitary urbanism must take up the *détournement* of known forms of architecture and urbanism. *Détournement* was a strategy to create a society of pleasure instead of Stalinism; it wanted to use the productive forces in society to change the everyday life to a more festive or ludic way. Unitary urbanism also relates to the growing traffic congestion in Paris. Debord was fascinated by Le Corbusier's radical solutions, and at the same time rejected La Ville Radieuse. Unitary urbanism wants to dissolve the separations of work/leisure or public/private. Unitary urbanism is a "living critique", fuelled by all the tensions of daily life (Kotányi and Vaneigem 1981, No. 5). The car as the organisation of "universal isolation" is the major problem of modern cities. Debord speaks of "the dictatorship of the automobile", the car having left its mark on the landscape in the dominance

of freeways that bypass the old urban centres and promote an ever-greater dispersal (Debord, 1995, thesis 34).

The Situationist's solutions have a certain resemblance to what happened in Amsterdam's Nieuwmarkt in the early 1960s, where the newly proposed Metro line was fiercely opposed by Provo (an anarchist revolt group). The White Bicycle Plan[5] was supposed to solve Amsterdam's transportation problem. Constant Nieuwenhuys was among the core members of this group who attempted to think of radical solutions to the city. In 1965, his New Babylon project was presented in Provo's magazine in order to help Provo's struggle with the authorities and the empowerment of the people. Nieuwenhuys saw New Babylon as a kind of creative game, not so much a town planning experiment or a work of art. Constant's "principle of disorientation" was a deliberate attempt to confuse spatial hierarchy. His New Babylon directly confronted the dull and sterile environments he saw arising all around him. Old neighbourhoods had their streets degenerated into highways, he writes, and leisure was commercialised and adulterated by tourism (Nieuwenhuys 2002, 95 -101).[6] His idea was a covered city with a continuous spatial construction, elevated above the ground. All traffic would pass underneath; streets could be done away with entirely. The city of the future must be conceived as a continuous construction on pillars, he writes. Constant was interested in new ultra-light and insulating materials, expecting novel results from space-technology. In 1960 he resigned, accused of plagiarising the ideas of the Situationist International. For Debord and Kotányi, he was much too much on the side of the creative individual; apparently "the collective" did not leave much space for individual creation in the society for which the SI was striving. Although the Situationist's ideas were comparable to Provo, Team 10, Aldo van Eyck's, Giancarlo de De Carlo's, and Shadrach Wood's ideas, they were architects, on the contrary, dealing with the incorporation of their ideas into concrete plans. The notion of play came from Johan Huizinga's *Homo Ludens* (1938). Archigram's proposals of Cedric Price and Littlewood, Fun Palace, and the Sin Centre by Michael Webb for London's Leicester Square all demonstrate how play can be commodified. Nevertheless, these ideas set New Babylon apart from Archigram; *creative play* and *fun* are not from the same tree.

Debord would cut up and reconfigure a standard map of Paris in a series of turns and detours.[7] The result reflected a subjective, street-level desire, an ambition to contest and to destabilise any fixed dominant image of the city by incorporating the nomadic, transitive, and shifting character of urban experience into spatial representation, as Corner explicates. Debord, Jorn, and the Smithson's alike, sought ways to address a social ecology, but the Situationists had difficulties getting on with "everyday" citizens, Sadler writes. They preferred to experiment on themselves, analysing the factors affecting their moods as they wandered their drift through the city. Debord made these maps after walking aimlessly around in the streets of Paris, recording his wanderings, while he also envisioned the progressive forces overtaking the streets of Paris. *Dérive* also meant reconnaissance for the revolutionising of power in the streets. Debord borrowed the idea of the drift from military tacticians, who defined it as a calculated action. Psycho-geography was merely the preparation, a reconnaissance for the day the city would be seized for real, Sadler (1998, 81) writes.

There are certain similarities with the way Michel de Certeau writes about a walk in the city. Truly, the operation of walking can be traced on city maps in such a way as to transcribe their paths. Yet these thick or thin curved lines refer, like words, to the absence of what has been passed by

(de Certeau 1984, 97). Surveys of routes miss what was, that is the act itself of passing by, he writes. The activity itself is transformed into points that draw a totalising and reversible line on the map. De Certeau compares the walking or wandering with what the speech act (*parole*) is to language. Like the Situationists, de Certeau attempted to return the map to everyday life, an intention we also find in Lefebvre's notion of lived space which corresponds with de Certeau's idea about the ordinary "practitioners" of the city, who "live down below", below the threshold at which visibility begins. For example, the homeless are invisible to the crowds who pass by them unseen (Graafland 2000). Characteristically, they walk, they are *Wandersmänner*, whose bodies follow the "thicks and thins" of the urban "text". Similarly, the Situationists had considerable influence on Fluxus and Performance Art. Fluxus founder, George Maciunas, organised a series of Free Flux Tours around Manhattan in 1976, which included an Aleatoric Tour, a Subterranean Tour, and an Exotic Sites itinerary. The art object was the city itself.

Layering

The second procedure is layering, mostly used for large-scale urban projects. Layering involves the superimposition of various independent layers one upon the other to produce a heterogeneous surface. Famous examples are Bernard Tschumi's en Rem Koolhaas Parc de la Villette (1983), and Koolhaas Ville Nouvelle Melun-Sénart, a competition from 1987. Melun- Sénart was developed along the lines of "how to abstain from architecture". Instead of starting with the "this is what we want," as we always do in studios, Office of Metropolitan Architecture (OMA) started with areas they wanted to protect. The rest they "surrendered to chaos." The systems of bands, or linear voids, were inscribed upon the site "like an enormous Chinese figure." OMA proposed to invest most of its energy in the protection of these bands, in maintaining their emptiness. Instead of a city organised through its built form Melun-Sénart would be formless, according to OMA. The system of emptiness had to guarantee beauty, serenity, and accessibility in spite of its future architecture (Koolhaas et. al. 1998, 981). The bands defined an archipelago of residue; the islands, of different size and location, were the counter forms of the surrounding voids. As in Tschumi's park, the project dismantled the programmatic and logistical aspects into a series of islands, voids, and layers. OMA's La Villette plan is about a possible development, not the final design for a park. The design is characterised by programmatic indeterminacy and architectural specificity. What it tries to develop is a chain reaction of unprecedented events. The site is subdivided into a series of parallel bands that run east-west. The bands accommodate the major programmatic categories like the theme gardens, the playgrounds, and the discovery garden. The series of layers should guarantee a maximum permeability. Nature is treated in the same way as program. Excluded from the strips, we find the small-scale elements, kiosks, playgrounds, refreshment bars, and picnic areas. The Boulevard and the Promenade organise human access and circulation areas. The former intersects all the bands at right angles, and connects the major components of the park, the Science Museum, and the Baths in the north, and Music City and Grande Halle in the south.

In Tschumi's La Villette Plan, the concept of structure is challenged; the process of superimposition, permutation, and substitution, which governed the Parc de la Villette, could only lead to a radical questioning of the concept of structure, Tschumi writes (1985, 2). From the Classical era to the Modern Movement, from Durand to the Constructivists and beyond, the notion of an incoherent structure is simply without consideration, he continues. The plan leads to a radical questioning of structure, to its decentring, since the superimposition of three autonomous

(and coherent) structures (points, lines, surfaces) does not necessarily lead to a new, more complex, and verifiable structure. La Villette opens a field of contradictory and conflicting events that deny the idea of a pre-established coherence. Specifically, the layers are not mappings of an existing site or context, as James Corner explains, but mappings of the complexity of the intended program for the site. That the programme can intentionally be empty in OMA's Melun-Sénart plan is a strategy to protect green areas or routings through the "absolute space" of the existing landscape. When the different elements of the plan are overlaid, we get an amalgam of relationships. In both plans, this layering results in a complex fabric, without a centre, hierarchy, or single organising principle.

Emptiness is also an important aspect of Tschumi's La Villette plan. *La Case Vide*, as the Architectural Association (AA) box is called, takes its title from one specific drawing, plate no 9. The plate contains the very logic of the displacements and dis-structuring which informed the making of the Folio. A *case vide* is an empty slot or box in a chart or matrix, an unoccupied square in a chessboard, a blank compartment—the point of the unexpected, before data entered on the vertical axis can meet with data on the horizontal one, Tschumi explains. The matrix no longer holds the endless combinations, "derived from the key drawings of the project, each plate dislocates the structure of the sys-tems which compose it, transforming and reassembling them not so much in order to question laws of representation, but to contradict the apparent logic of the actual ordering device—divergence, deviation, deflection, dispersion, exorbitation." (ibid. 1985) What is actually built is no more than the ephemeral and temporary materialisation of concepts at one arbitrary moment in the conceptual chain in the development of architectural thought. The trees, the cinematic promenade, the galleria, the follies are real, but at the same time abstract notations, a frozen image, a freeze-frame in a process of constant transformation. Although it is a park, it has virtually no relation to the public park of the nineteenth century. Anthony Vidler writes, it retains or formalises two aspects of historical gardens—that of the axis and the "*parcours,*" the straight line and the undulating line. The first is a characteristic of classicism, the latter of romanticism. They are both re-used, but as "empty signs," as Vidler writes (ibid., 20-21):

> *The three routes' of La Villette—the aerial (the covered, intersecting axes of the raised bridge), the terrestrial (the winding path joining the philosophic gardens of the meandering twentieth-century flâneur), and the aqueos (the old commercial canal)—are no longer initiatory or evocative of initiation. They are simply three routes, through and out of the park*

Reference to an ordering principle no longer exists, and there is not a series of expectations or hidden views. Rather, Tschumi has bound the park to the city, Vidler writes, not as a privileged realm, but to one another.

The same procedure is present in OMA's proposal, where we find a Promenade that delivers "surprise," and a Boulevard that gives "certainty." The Promenade in OMA's plan is complementary to the Boulevard, and is generated through the identification of significant cross-sections through the bands, where they create "sites within the site" (chess tables, tribunes, roller-skating surfaces, and the like). The Boulevard accommodates the 24-hour part of the program and the all-night facilities are located along it. Koolhaas describes it as a late twentieth century equivalent of the Arcades.

Game-board

The third strategy is that of the game-board. Game-boards are conceived as shared working

surfaces upon which various competing constituencies are invited to meet to work out their different claims on a contested territory. The game-board should facilitate the different spatial claims on the same territory to find a common ground while playing out various scenarios. The difference with layering is that in a game-board the actants are supposed to do the development, whereas the *urbanist* or *architect,* on the other hand, steps back from the design process to accommodate the different parties involved. Well known examples are Raoul Bunschoten's plan for Bucharest in Romania (1996), and MVRDV's Regionmaker and its successor the Space Fighter, developed in cooperation with the former Delft School of Design (DSD) (Maas, 2007). In both cases, cities are seen as dynamic entities where different players are involved and their "effects" stream through the system. CHORA's proposition addresses the situation of Bucharest as a whole, relating the larger context of this geomorphologic system to the various changes—political, social, and physical that affected the city (Bunschoten 2002, 398).

CHORA consisted of a small group of architects who have been associated with the AA in London. Its organisational form is something between an academic research institute, an urban planning office, and a city policy think tank that aims to research urban environments undergoing radical change. Bunschoten headed the group and used the term "chora" to refer to a threshold space between local and larger global conditions (ibid. 2002, 5). Global trends create "urban flotsam," things drift out of place and they form a "second skin" on the earth. In most cases, this second skin is not a planned urbanism and in many cases we cannot even speak of "urbanism." It is occurring in many Asian and Latin American cities and urban conglomerates.

Mike Davis shows that since 1970, the growth of slums everywhere in the South has outpaced urbanisation *per se* (Davis 2006, 17). To quote the urban planner Priscilla Connolly, he mentions that in Mexico City as much as sixty percent of the city's growth is the result of people, especially women, building their own dwellings on unserviced peripheral land. Another example is Sao Paulo, wherein 1990 alone, the population of the favelas grew at the rate of 16.4 percent per year. The same is happening in Asia and Africa. In Beijing, police authorities estimate that 200,000 unregistered rural migrants arrive each year, many of them crowded into illegal slums. In Karachi, the squatter population doubles every decade and Indian slums continue to grow 250 percent faster than the overall population. Of the 500,000 people who migrate to Delhi each year, it is estimated that 400,000 end up in slums. By 2015 India's capital will have a slum population of more than 10 million, Davis concludes (ibid., 18). In Africa, the situation is even more extreme. Africa's slums are growing at twice the speed of the continent's exploding cities. By 2015, black Africa will have 332 million slum-dwellers, a number that is expected to double every fifteen years. The "cities of the future," as Davis writes, are not made of glass and steel as envisioned by earlier generations of urbanists, but are "largely constructed out of crude brick, straw, recycled plastic, cement blocks, and scrap wood" (ibid. 2006, 19).

Like Corner, Bunschoten is interested in the performative aspects of mapping. Bunschoten writes: "The second skin of the earth is in flux. This dynamic character is the essential quality of cities. Things move, though sometimes very slowly." (Bunschoten 2002, 37) Frictions, new configurations, and singularities emerge (ibid.). Urban flotsam is about the manifestations of global influences on local environments. His interest is on modelling these influences, with the aim to develop scenarios. Bunschoten's Urban Flotsam is divided into four chapters, each having a methodological layer and a case study layer. The first chapter consists of these

"proto-urban conditions." It deals with seven walks accompanying the city planner of the city of Alexandrov, Russia, just after the dissolution of the Soviet Union, on a path that encounters a rapidly changing field of forces and events. The city is grasped by walking through it, very much in line with the earlier mentioned first strategy. "Walking is an act of touching upon the intertwining undulation of the landscape of the city and society" (ibid., 55). Indeed, De Certeau's footsteps are present in CHORA's procedure: "linking acts and footsteps, opening meanings and directions, these words operate in the name of an emptying-out and wearing away of their primary role…(becoming in turn) liberated spaces that can be occupied" (ibid., 75). Almost like a common manifesto from the Situationists and de Certeau, Bunschoten writes that "immersion in the city with new eyes means walking through it, entering its flux, encountering emergent phenomena, recognising them as manifestations of proto-urban conditions, sorting them into boxes" (ibid.). Yet, no urban revolution is implied as in the Situationists.

The second chapter of the book deals with the *Taschenwelt*: having entered a changing environment, how do you get involved? How do you play with the elements? *Taschenwelt* means "pocket world," a model that holds the dynamic properties of a life form and enables a more precise view of the complex reality. This notion is derived from Arno Schmidt and Claude Levi-Strauss, who describe it as a micro-world where reduction of scale reverses a situation. This "pocke t world" can be assessed and comprehended at a glance. Obviously, a similarity might be drawn with what Deleuze understands as "micro-politics" and *écriture-mineure* in Kafka (Deleuze and Guattari 1972, 30). The third chapter is about "taxonomy and unfolding." Can a given reality be retold in a different way? Can one insert new plots to create narratives that have the power to change? Chapter Four is about "liminal bodies." Nevertheless, the question should answer how to realise these scenarios. "The engine of these encounters is the Liminal Body, a threshold device that brings together existing local components and potential immanent or global conditions. The Liminal Body invites certain urban components into its structure, links them with elements of other conditions. Liminality is a "topological issue" (Bunschoten 2002, 348). However, "liminal bodies" represents a key to the development of an action plan for Bunschoten. Urban design is not so much practiced as spatial composition, but as orchestrating the conditions around the game-board. The idea is to "stir the city," to negotiate interaction with other agents in the policy-making process. This strategy could lead to new policies in what Saskia Sassen calls in the case of Caracas "analytic borderlands," or "spaces that are constituted in terms of discontinuities and usually conceived of as mutually exclusive. In constituting them as analytic borderlands, discontinuities are given a terrain of operations rather than being reduced to a dividing line" (Sassen 2005, 83).

Cartographers and map historians have long been aware of tendencies in the content of their maps that they call "bias," "distortion," "deviance," or even the "abuse" of sound cartographic principles, J.B. Harley (1988, 287) writes. Yet little space in cartographic literature is devoted to the political implications of these terms according to Harley. The "bias" is mostly measured against the yardstick of "objectivity;" rather, his interest is in the deliberate distortions of the historical map and the "unconscious" distortions, the "silences" in the maps. His conclusion is remarkably informative—maps are pre-eminently a language of power, not of protest. Maps, as an "impersonal" type of knowledge tend to "de-socialise" the territory they represent, he writes. The abstract quality of the map, embodied as much in the lines of a fifteenth-century Ptolemaic projection as in the contemporary images of computer

cartography, lessens the burden of conscience about people in the landscape. Decisions about the exercise of power are removed from the realm of immediate face-to-face contacts (ibid., 303).

This problem of objectivity and exclusion of face-to-face contact is even stronger in the contemporary architectural and urban maps that are performative by nature. Bunschoten links the various cultural aspirations of each group to a physical space or territory, distinguishing local authorities who anchor conditions, and actors who participate with stated desires, and agents who have the power and capacity to make things happen. Importantly, however, is to look at "those who lack power, those who are disadvantaged, outsiders, discriminated minorities," for they can gain presence, Sassen writes, "vis-à-vis power and presence vis-à-vis each other" (Sassen 2005, 83). Another mapping technique might make this visible.

In principle, the possibility exists to link the different layers of the earlier discussed plan of La Villette to Bunschoten's "frames" to play out certain thematic conditions. Bunschoten's game board is quite different from the "derive" since in this case, the intellectual and his Marxist theory are responsible for the direction an intervention might go. The game-board player, in contrast, incorporates and engages the various imaginations of all the relevant parties, Corner (1999, 240) writes. In devising the map, the designer sets up the game-board to avoid the pre-figuration or predetermination of the outcome—basically a game of negotiation. Of course, this game playing is set apart from the Situationists ideas of an intellectual spearhead; the management of urban change is dependent on the interaction of parties and structures that need to be anchored in the physical environment, Bunschoten writes (2002, 45). With a reference to de Certeau, he writes that it is necessary to identify proto-urban conditions and local authorities that anchor these conditions within existing institutions or places; as well as actors or participants with stated desires, and the agents necessary to develop the potential of growth in relation to the desires of actors. Where the Situationists wanted to change these institutions, and critically address the "stated desires," Bunschoten chose to work with the established institutions in a democratic way. Strategic and cultural planning involves scenarios that link economic and demographic changes to factors such as identity, culture, history, and collective memory. In Bunschoten's (2002, 47) words:

> *(In) a volatile environment moving towards a fully fledged democracy, large-scale urban transformations cannot be implemented without forms of planning and management that resemble game structures: new institutional structures that include radically different partners, agents and actors.*

In Eastern Europe, according to Bunschoten, an urgent need exists for exemplary studies that should aid local populations in their quests for direct action, direct democracy, self-determination, and self-organisation. CHORA wanted to contribute directly to the decision-making processes, to create models and prototypes for (other) Eastern European cities and towns, and for the urban-planning discipline. In that sense, he steps out of a purely academic world into the daily practices of design and planning.

In contrast, this aim is also the major difference with Tschumi's plan for La Villette. La Case Vide keeps a distance from its users, its symbolic representations, and the traditional garden design. In an interview with Alvin Boyarsky, Tschumi defines the plan as "a distorted reference to Modernism; it does not enter the canon of Modernism in the sense that it is already distanced from Modernism in many respects"

(Tschumi and Boyarsky 1985, 25). Tschumi sees the point grid as a way to organise frames, sequences, distortion, and cut-ups—procedures that come from montage techniques in film. The point grid that is about action and event, and yet it is not something to be discussed in a decision-making process. The point grid should fulfil two tasks: Tschumi's theoretical intentions, and the points as action and event, and an immediately readable image. Furthermore, the point grid has to communicate an "alternative representation of society and the contemporary nature of the metropolis to a disbelieving public," as Boyarsky argues during the interview (ibid.). This position is comparable to the Situationists. The La Villette plan was a competition and CHORA sought cooperation from the very beginning. This lack of initial cooperation left La Villette with a "communication" problem, as Boyarsky pointed out during the interview: "...the learned jury seems to have understood, but the layman, the press, and the bureaucracy who became the client didn't, so you were caught in a trap when the decision was announced. I'll bet you had to produce the imagery which you're living with now in quite a hurry" (ibid.). Tschumi's answer is that he considered that a form of meta-language would allow him to communicate. For him, architecture is not about a spatial illustration of theoretical or philosophical propositions at any one time; rather, it participates in them, accelerates them, and intensifies them (ibid.). The meta-language is architectural; it is the red of the follies, the abstraction of the cube, the line, and the plane. For Tschumi there is obviously "an implicit sympathy with Russian Constructivism, and although CHORA relates to different partners, agents, and actors, it uses a similar strategy—the game-board and its ingredients are not up for discussion either. The meta-language is in the hands of the designer, not the public."

Rhizome

The fourth strategy is that of the "rhizome." Corner describes their open-ended, indeterminate characteristics by referring to Gilles Deleuze and Felix Guattari's use of the concept. Corner rightfully stresses the notion of "milieu" from which the rhizome grows as an a-centred, non-hierarchical and expanding figure (of thought). Both Deleuze and Guattari had made an important distinction between a "map" and a "tracing" in their work *Mille Plateaux* (Deleuze and Guattari 1987), a distinction that is relevant in this context of mapping. The map is connected to their rhizome, and the tracing is related to the tree structure. Tracings belong to hierarchical structures and orders. But the rhizome is certainly not a loose and disjointed field of everything. It holds together by a "plane of consistency," or a surface that structures the open-ended series of relationships. Although Corner considers the rhizome a strategy, it is first and foremost a theoretical concept used by Deleuze and Guattari in *Mille Plateaux*. This concept was also employed earlier in my book, *The Socius of Architecture (Graafland 2000)*. In Amsterdam's Westerdok, these dynamics of the past and present situation were captured with the notion of a "rhizome." Indeed, Amsterdam's inner city may be characterised as "Situationists' space" *par excellence*, precisely the opposite of sanitised modern space. The plan itself has no architectural connotation other than its land use, which explores the possibilities of a pedestrian archipelago where the strips have no other meaning than dimensional limit to the streets and the water. Amsterdam's inner city explores a theoretical "non-representability" in the urban scale, the design of which is about the experience of the sublime. Yet in a completely different way, the Situationists adopted an aesthetic experience. Potlach consistently recommended sources for the sublime, according to Sadler, but the Situationists' examples were all "picturesque"—

from Claude Lorrain's sea views, to Fernand Cheval's exotic palace he built in his back garden, to the Parc Monceau, and to Piranesi's Carceri. The "other sublime," as I use the term, is about abstraction and disappearance, which is directly comparable with what Ackbar Abbas (1997, 65) writes about Hong Kong cinema and colonial space.[9]

Realism vs figures of thought

In conclusion, we see that concepts like "the social", "activism", "social system", "participatory planning and design", and even "design" are never neutral. When observing developments that were never planned nor controlled, we should ask ourselves where this leaves design—whether architecture, urbanism, or social design. Should not we find new ways to think and act in order to address these most urgent questions? The answer should be a resounding "yes," without overestimating the capacities of design, however broad or specific. Gita Dewan Verma's controversial *Slumming India* (2002), an "almost Swiftian attack on the celebrity cult of urban NGO's," is one example that debunks improvements projects that fake success out of a civic disaster (Davis 2006, 78). Verma claims that "for more than a decade we have been celebrating a drawing" (Dewan Verma 2002, 35) where uncertainty looms based on a "design idea, that we are not sure will work because it has not yet been tested" (ibid., 5). This refers directly to what I mentioned in the opening of this text about medical sciences and design thinking. Urbanism and architecture at an institutional level relate to plans and designs, and seldom involve actual material practices in neighbourhoods or on city level. The danger of celebrating a drawing or concepts is always present. They are part and parcel of theoretical knowledge, different ontologies, and varying relations. The best we can do in education and research is to develop different conceptual frameworks as best as we can, whilst refraining from a mere "celebrating of a drawing." Because that is basically what we do in education (we assess drawings), nothing is built or executed. General discussions on the "core" or "the essence" of education in design schools lead, in my opinion, to a "nowhere-land." We need and require the plurality of "figures of thought."

Notes

1. See: Arie Graafland, *Versailles and the Mechanics of Power*, (Rotterdam: 010 Publishers, 2003). p57.

2. See: Peter Meusburger and Hans Gebhardt in their introduction to the Hettner Lecture in Heidelberg, 2004.

3. See Potlach: Information Bulletin of the Lettrist International # 27, November 1956, in *Situationist International, Anthology*, The Alba Platform, pp14-15.

4. See: Detournement as Negation and Prelude, Internationale Situationiste # 3, December 1959, *Anthology*, p55

5. The White Bicycle Plan proposed to create bicycles for public use that cannot be locked. It stood as a symbol of simplicity as well as healthy living, in opposition to the automobile.

6. It was in June 1960 that Constant resigned from the collective. "While Constant elaborated the design and theory of his project for another 14 years, the relationship between the Situationists and architecture remained problematic on both sides", Mark Wigley, *Constant's New Babylon, The Hyper Architecture of Desire*, 010 Publishers (1998), p16.

7. See: Guy Debord and Asger Jorn, *Guide psychgéographique de Paris: discours sur les passions* de l'amour, 1956, screen printed map.).

8. An 'écriture mineure' as opposed to 'majeure', as in Kafka's work is not the literature of a limited language, but that of a minority using a great language. Deleuze and Guattari link this language to the condition of the Jews in Prague whose language was mostly blocked and made peripheral. They were living between the impossible choice of not writing at all, or in German which was not their language either and also not very common in Prague, or writing in a different way. Because of the limited space where this écriture mineure is practiced, almost everything is political. What happens in that language is put under a microscope. Pour une Littérature mineure, p30.

9. Abbas is arguing for a critical discourse on Hong Kong architecture and urban space, where the dominance of visuality is put into question, as in the case of the new Hong Kong cinema. The notion of disappearance he is arguing for does not connote a vanishing without a trace. It can go together very well with a concern for presence and projects of preservation. See also Rem Koolhaas, 'Imagining Nothingness', in *S,M,L,XL*, p199, with a similar idea.

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Bio

Arie Graafland was Visiting Researcher at Nanjing University, Faculty of Architecture, Publishing *Cities in Transition, Power, Environment, Society* in 2015 (NAi/010 Publishers). Previously he held a Visiting Research Professor position at the University of Hong Kong (HKU), and was the DAAD professor at Anhalt University, teaching at the DIA in Dessau. He was Professor of Architecture Theory at the Faculty of Architecture, TU Delft until 2011 (emeritus). He has lectured internationally and published extensively in these areas. Prof. Graafland was awarded the Antoni van Leeuwenhoek chair in 1999 and founded the Delft School of Design in 2002. He was the editor of *The Delft School of Design Series* on Architecture and Urbanism with 010 Publishers.

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002

Arts-Based Methods as Tools for Co-design in a South African Community-based Design Co-operative

Khaya Mchunu
Kim Berman

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Arts and visual participatory methods can be effective tools to facilitate the experience of rural design actors involved in a co-design process that could be seen as contributions to the emerging praxis called "Design Social." We identify the inclusion of visual processes to co-design and co-manufacture Venda-fusion products with members of a South African rural-based sewing group called *Zwonaka Sewing Co-operative*. The co-design process involved a set of iterations that used visual modes such as Photovoice, painting, photographs, collaging and appliqué to create and market these products. Statements shared by the group members reveal the development of their personal agency, as well as confidence in product design, manufacturing, and ownership of the design process. These are significant outcomes for this particular social context, and we propose that the use of arts and visual methods enhances capacities of reciprocity, creative thinking and ownership through the co-design process.

#*Zwonaka* Sewing Co-operative

#Co-Design

#Co-Creation

#Arts-Based Methods

#Social Innovation

Introduction and context

The South African National Research Foundation (NRF) funded a program called *Arts-based approaches for development* (2011-2014) at the University of Johannesburg (UJ), which aimed to research the role that higher education could play in community-engaged development of partner communities through the arts. The program intended to expand notions of service-learning with a more social activist approach to participatory interventions (Berman and Allen 2012). One of the outcomes of the larger project was the development of a self-supporting sewing co-operative undertaken as a Master's research project (Mchunu 2013). We contend that the project aligns with the emerging field of social design as it promotes the potential of design to tackle social complexities. In an introduction to a special issue on social design, authors Chen *et al.* (2015, 1) posit that the field "has given new tools to help [designers] work with abstract entities such as service and communities rather than just with things." The authors assert further that "[s]ocial design seems to go to those places and spaces in which people live and work with them; the relationship is collaborative and usually respectful of local habits and customs" (Chen et al. 2015, 1). The project discussed in this paper used a participatory pedagogy that engaged creative practices and fashion design to address unemployment and poverty in a rural community. The *Zwonaka* sewing co-operative (named with a tshiVenda word meaning beautiful) was established with four women from HaMakuya, a chieftaincy in rural Venda, South Africa. The development and design process was developed through interventions with arts- and visual-based approaches to promote an innovative, collaborative, participatory and democratic environment.

Design at a social context has been written about extensively. Adam Thorpe and Lorraine Gamman (2011) discuss the importance of equitable arrange-ments between all involved stakeholders for collaboration and agency to happen successfully in design-led social innovation. Miaosen Gong *et al.* (2010) provide several cases that demonstrate how service design can be a viable approach to intervene with social innovations. Closer to our context, Keneilwe Munyai and M'Rithaa Mugendi (2014), provide cases of designers and crafters in the 'small, medium and micro enterprise (SMME)' sector collaborating to address high levels of unemployment in the city of Cape Town as a result of urbanisation. From these authors, it is evident that collaboration, equity, agency, and sustainability in social design are important themes. While these themes are also evident in the present paper, we grapple with the mode of interaction in social design described by Pelle Ehn (1989) and Clay Spinuzzi (2005) as "the tension of co-design". In addition to this, we integrate the potential and value of arts-based methods to this tension and explore ways in which multi-modal methods enhance collaboration and agency of the participants in a design social context. Agency in this context values the responsibility to act and is supported by the capacities of voice, resilience, and imagination that place participants at the centre of their own development (Berman et al. 2012, 12).

Participatory design, or co-design, a methodology used in social design, originated in Scandinavia during the 1970s and 1980s, and promotes collaboration in the design process (Spinuzzi, 2005). We readily adapt it to the African context because the notion of collaboration and participation has existed in African thought and practice for many centuries. For example, collaborative decision-making is traditionally achieved during communal meetings called *imbizo* (IsiZulu) or *lekgotla* (Setswana) or in tshiVenda *mutangano*. There is also the idea of communal co-parenting embedded in the

proverb "it takes a village to raise a child," which is common to many parts of Africa. The value of teamwork is also widely expressed in the Nguni saying *angiyona inkomo edla yodwa* (I am not a cow that grazes on its own). Heike Winschiers-Theophilus *et al.* (2012) and Kate Chmela-Jones (2015) contributed to design theory by acknowledging the value of African indigenous knowledge about collaboration to participatory design praxis.

The idea of working together symbolically and practically embodied the theme of collaboration, which underpinned the process of co-designing Venda-fusion products with the members. Lara Allen, then director of Tshulu Trust, the community trust of HaMakuya, coined the term Venda-fusion. The term responds to the government department's call to "invest in culture," and is used by the co-operative to brand their products and advertise them to a wider market. The design aesthetic is achieved by manufacturing contemporary styled products using *nwenda*, a form of cloth that is understood to be traditional Venda material. While *nwenda* is the most commonly used term for the material, strictly speaking it refers to particular traditional female dress customarily made from this cloth.

South Africa has a history of racial segregation, most rigorously operated under the apartheid system (1948-1994). The transition into democracy meant recognising those groups that were previously oppressed and operating under a newly envisaged trajectory known affectionately as "the rainbow nation," which alludes to the diverse cultural groups of the country. Lily Becker (2005) asserts that "in the process of building a democratic and socially cohesive society in South Africa, it is imperative that we communicate through working together in groups and enter into a relationship with the other." Marc Steen (2011, 47) recognises that working in a space that has differences is one of the tensions of a co-design process. Engaging in a co-design process, particularly in the *Zwonaka context*, meant acknowledging and accepting differences of the various design actors.

While all participants directly involved were of African descent, the first author, who worked most with the group, had a different background from the women participants: differences included dialectically different home languages (tshiVenda speakers/Zulu speaker), social backgrounds (rural/urban), educational background (minimal education/university education), generational differences (old/young), and gender (all-female group/only male outsider-designer). Clay Spinuzzi (2005, 166) postulates that the most distinct and influential notion of participatory design is the "language game" — that is, bridging the many worlds of the co-design actors by finding a common "language" or mode of interaction (see also Ehn 1989). Nancy Cantor acknowledges the "power of the arts and cultural disciplines to amplify community voices and build the critical bridges crossing boundaries" (Cantor 2014), and arts-based methods served this purpose in our case. In a similar discussion, Krensky and Steffen (2008, 15) assert that arts-based approaches placed within a frame of service-learning act as tools to bring people together, to support collective action and to create opportunity for envisioning a better community. The potential of visual and arts-based methods in development contexts have been used widely in South Africa and are well documented (Berman 2009; 2013). The *Zwonaka* sewing co-operative is the example of this potential. The first author of this article (Mchunu), who was also the trainer and designer of the intervention, analysed the project as part of a Master's study. The co-author (Berman) supervised the study as part of the UJ-based community-engaged research program grant from the NRF.

Background of the case

The South African government identified the site of this engagement in HaMakuya, in the Mutale district of Limpopo Province, as a poverty node with local unemployment reaching up to 90% at the time of the intervention *(www.tshulutrust.org)*. Most residents depend on the social grant system, particularly child grants and pension grants. The UJ through its community engagement program, Arts-based Approaches for Development, entered into partnership with Tshulu Trust. The Trust had established a fully equipped residential research site with funds from the National Lotteries to attract visiting international students to stay in the tented accommodation and conduct environmental research in the neighbouring Kruger National Park and surrounds. This was an important factor for the intervention discussed in this article, which addressed unemployment in the neighbouring village. The intervention contributed to the Trust's aim to alleviate poverty by increasing opportunities for income generation by community members *(www.tshulutrust.org)* through the development of micro-enterprises, such as the sewing co-operative, and a catering unit to serve the visiting student market.

The community Trust first established a sewing co-operative in 2007 as part of a number of poverty alleviation initiatives funded by local government, and directly supported it for the first two years. Although the first sewing co-operative, which involved a different group of women, was successful in generating more income per annum from sales than the equivalent of minimum wage salaries for its members, it closed down after two and a half years. Reasons given by the group for their resignation included a desire to receive a regular monthly stipend, as was the case for the first two years while the co-operative was part of the government-funded program. They deemed a small but regular stipend, which was significantly less than the minimum wage, preferable to the larger but irregular earnings derived from their independent business.

The co-operative members also expressed their frustration over the irregular working hours that resulted from periods of intensive, pressured activity caused by large orders (due to visiting student groups), interspersed with periods of inactivity between orders. Reflecting on the experience of developing the sewing co-operative, and particularly on its sudden closure, the Trust director (Lara Allen) realised that the co-operative's demise was in part a result of a significant contradiction inherent in the way in which it was set up. The initial government funding was part of a larger job creation program, which guaranteed that all participants received the same monthly stipend for a period of two years. After this time, the micro-enterprises created through the program were expected to continue without government support. However, people who possibly had the entrepreneurial drive required to successfully keep a micro-enterprise going were not attracted by the initial small stipend and did not apply to take part. But those to whom a small regular income appealed were not comfortable with the stresses of entrepreneurship required to keep the project afloat (Lara Allen, personal interview, May 18, 2012).

Given the continuing employment opportunities offered by the steady market created by other Trust activities, the Trust wished to establish a second sewing co-operative. The Trust's director approached the UJ's Fashion department who then nominated the first author for a fashion design Master's degree candidate to initiate a new sewing group as a part of the Arts-based Approaches for Development program. The challenges this posed required an intervention inspired by a participatory approach in which

community members interested in the arts and business could work with a designer/trainer to address questions of economic sustainability, empowerment, substantive learning, skills training, and product design and development. Community-based participatory methods were introduced from the start to ensure that the incubation of the co-operative resulted in real empowerment and a sense of ownership. This included using visual and arts-based methods to co-design products that are sold at the co-operative.

Theoretical considerations for social design

Depending on the themes of collaboration, joint decision-making and teamwork, our approach was closely related to Freire's idea of dialogue, as discussed in his book *Pedagogy of the Oppressed* (1970). He describes the importance of dialogue in a participatory approach as "the encounter in which the united reflection and action of the dialoguers are addressed to the world which is to be transformed and humanised, this dialogue cannot be reduced to the act of one person's 'depositing' ideas in another" (Freire 1970, 89). This notion framed our co-design process to democratise the experience as much as possible, and used dialogue as a pertinent component of collaboration and participation. For the purpose of this article, and considering the work of co-designing Venda-fusion products with the *Zwonaka* members, we also borrow from Ezio Manzini (2014) and Marc Steen (2011). Steen (2011, 52) defines a co-design process as:

> *An attempt to facilitate diverse people with diverse backgrounds and skills—to co-operate creatively, so that they can explore jointly and envision ideas, make, discuss sketches, and tinker with mock-ups.*

Apart from it being a facilitated process of co-operating creatively, Manzini (2014, 99) points out the value of:

> *Social conversations in which everybody is allowed to bring ideas and take action, even though these ideas and actions could, at times, generate problems and tensions. It is a process in which different people with different ideas and languages interact and, sometimes, converge towards common results*

The *Zwonaka* intervention had two parts: the research project and the sewing project. Our endeavour and holistically that of the Arts-based Approaches for Development program, was to counter the idea of "helicopter" research—that is researchers who come into a community, take from the community, and leave the community with very little. This is an ethical issue of participatory design posed by Penny Hagen and Toni Robertson (2012 87), who propose that we as designers "might ask who, exactly, benefits from this participation and how can we, as designers, act to maximise the benefits to the participants while avoiding their possible harm and exploitation." For this reason, co-design was an appropriate approach that we argue could be socially relevant and could inculcate a sense of ownership of the research and the project for the four members. Gavin Melles *et al.* (2011, 149) postulate that designers who engage effectively with communities and then co-design and co-manufacture a solution that utilises local or regional materials, craftsmanship and expertise, and facilities, while developing new skills and knowledge acquisition, empower the community and allow the solution to be "owned." Likewise, Venda-fusion products were produced with materials bought in Thohoyandou, the biggest town closest to HaMakuya (about 50 km). We also used sewing machines and other equipment that were sponsored by the Trust.

Victor Papanek is credited with the development of the ideas about social design through his book *Design for the real world* (1984). Design Social can be perceived as a design practice posited by Manzini as being in an on-going evolution. This evolution shows a trajectory going from twentieth century design oriented towards European and North American middle-classes, and moving towards a system-oriented design participating in larger co-design processes of very different contexts (2014, 96). The *Zwonaka* context can be viewed as a case of design for social innovation, which is described as a structured vision of what design could do for social change that includes a sequence of actions characterised by a clear design approach (Manzini 2013, 57). Implementing this sequence of design actions in the *Zwonaka* co-design process was supported by a participatory pedagogical approach that used arts-based approaches as methodological tools.

Arts-based approaches in the Hamakuya context

Kim Berman (the second author) utilised her experience in community projects to mount a ten-week module for university art students participating in the Arts-based Approaches for Development program, attended by the first author in preparation for the HaMakuya community intervention. The weekly seminars introduced participatory methodologies and developmental approaches to evaluations that included Participatory Action Research (Reason and Bradbury 2006; Stringer 1999), Most Significant Change (MSC) (Davies and Dart 2005) and Appreciative Inquiry (Hammond 1998). Other methods that were introduced included visual narrative strategies such as Photovoice (Wang and Buris 1997) as well as critical and transformative pedagogical strategies that include public scholarship and civic studies (Boyte and Levine et al. 2014), education for transformation (Ash and Clayton 2009). Paper Prayers (Berman 2009; 2012) were also included in the module workshops to convey empathetic listening skills and the notion of arts as a form of healing and empowerment. Some of these underlying principles include the view that a participatory approach at a social level aims to produce knowledge and action that is directly useful to a group of people, and to empower them to construct and use their own knowledge (Reason and Bradbury 2008, 2). The position posited here is that arts-based approaches are transformative and core to engaging community participants in social design.

The learning module was followed by the intervention in HaMakuya in which senior art and drama students embarked on a one-week visit to the site to introduce arts-based approaches and activities in partnership with the local clinic and schools. Before the intervention, students participated in a "home-stay" with a local family in a homestead for two nights. During this process of cultural immersion, they contributed to household chores such as collecting water from the river or communal taps, tending goats, and preparing traditional food. Using a translator, the students engaged with and introduced themselves to their hosts through Photovoice, a method evolved by Caroline Wang (1997). Participants in this visual method use meaningful photographs that they themselves take, accompanied by their narratives to communicate a pertinent issue. The students passed on a camera and basic skills to members of the household to take their own photographs of meaningful images. This introduction set the ethos for participatory and mutual exchange of respect and empathetic listening (Berman and Allen 2012). Participating in "home-stays" was also an "eye-opener" about the context in which the co-design process takes place. It extended the idea of "placing the people's interactions and interrelations at the heart of each encounter" in a co-design experience (Winschiers et al. 2012, 98).

These processes were also applied in the intervention with the *Zwonaka* sewing co-operative by giving participants an opportunity to negotiate and define the conditions for participation, such as agreeing on a working time and days that would best work for their context. For example, a statement by a participant expressed through her own Photovoice exercise, "I wake up at 4 o'clock in the morning to get wood and water to prepare food for my husband and children and then I go to work at a school feeding scheme at 5 o'clock until midday. And then I can only come [into work] at Tribal to do some sewing," provides a clear picture for her to negotiate the collaborative process. As outsider-designers we found that such understandings were deepened further through participation in programs such as "home-stays" as they cemented insight, empathy, and understanding of the situation of our design partners.

Methodology and ethical considerations

While the development of the co-operative adopted participatory action research, the pedagogical approach for the research design of the intervention followed the participatory methodology of co-design. Spinuzzi (2005, 166) asserts that the methodology of participatory design is derived from participatory action research as a way to understand knowledge by doing. Described as an iterative process, participatory design allows all actors to interrogate developing designs and ground their design conversations in the desired outcomes of the process (Spinuzzi 2005; Robinson and Simonsen 2012a; Simonsen and Robinson 2012b). Likewise, the co-design process of the HaMakuya case can be described as having progressed as a set of iterations to enhance the experience of all participants and maximise their potential to contribute to the process meaningfully. The camera in conjunction with focus group discussions was used each time as a visual method in the training process to enhance the collaborative and participatory experience. This approach allowed participants to reflect on and examine the iterations critically.

Before the co-design process commenced, the group signed consent forms that notified them about the process in its entirety including what the co-design process entailed, and stipulated the responsibilities of all participants. The group was informed that the process would be photographed. All members were also made aware that they would operate sewing machines and other equipment such as scissors and ironing equipment at their own risk. All members were given freedom to contribute design ideas, to ask questions, and to withdraw from the partnership.

Co-designing Venda-fusion products: the case

The section that follows is a brief summary of the co-design process for Venda-fusion products. The section discusses preparing the group to design and co-create using arts-based methods, and marketing the co-created Venda-fusion products. Interspersed with this discussion are some comments by the group members about the process to indicate the effectiveness of a co-design process in product development.

Three of the members had never worked on sewing machines before and were introduced to different sewing equipment and machinery. Some found it challenging to remember all of the threading steps for the machine and experienced difficulty fixing machine problems that occurred during sewing, such as incorrect stitches. In order to address this challenge we introduced the camera as a visual training tool and showed the group how to use it. The group photographed all of the sewing machine threading sequences, as well as the problems encountered by the machine, and actions to take

to fix those problems *(Fig. 1)*. The resulting visuals were displayed in the sewing venue, and supported by text written in the local vernacular so that they could be referred to easily. At this point of the co-design process, inexpensive low-grade materials were used in order to allow the group to reach their desired level of sewing competency without the pressure of selling the products. The comment by a participant, "I am now able to see if I am going wrong in my sewing because I even look at the pictures on the wall," demonstrates that this specific arts-based approach was effective. Over time we observed that the participants stopped referring to the photographs and the wall was used for other training such as recording finances. Four months after basic training was implemented Venda-fusion products were manufactured for sale.

In the next phase of the process we employed photographs and narratives to develop new products with the participants. At times the participants expressed frustration over the long distances they walked from home to get to the co-operative venue. Inspired by appreciative inquiry, we adopted a positive perspective on this frustration by formulating a design development exercise using this time to spark creativity and help to support new ways of thinking and looking at the world. We called it the "pathway exercise". Each member was challenged to take photographs of environmental surroundings that they found meaningful on their path to work by using their cell phones or digital cameras (provided by the UJ). Because of the focus of collaborative practice and teamwork, to get the process started, the first author accompanied the participants on the walk the first time it was applied. The aim was to incorporate their photographed surroundings in their Venda-fusion products in a creative way. Some photographed subjects such as cattle, cowbells, grass-thatched huts, and baobab trees. The images below show how some of the images photographed and then drawn by the participants were interpreted into Venda-fusion design. In an experimental design process, they used the shapes of cutout stencils to collage or sew the images onto cloth to produce unique designs.

Using the process of Photovoice, the participant who photographed the baobab trees that she saw on her way to the venue thought about the significance of the tree: she thought it was a unique feature found only in certain parts of Southern Africa including HaMakuya, which qualified it as an important element to add to Venda-fusion (Fig. 2). It was interpreted as an appliqué detail on one of the skirts (Fig. 3). As it turned out, the skirt did not sell well but it was significant that the idea of the participant be tried and tested.

Another participant noticed many grass-roof thatched huts during the walk and thought that they could be incorporated creatively. She photographed a hut from her own homestead, which was still under construction (Fig. 4). The interpretation into design was less literal for the handbag, which might explain its continued popularity. For example, the design incorporated the roof of the hut expressed creatively by using strips of *nwenda* and other materials. The pocket detail of the bag had a zip that resembled the door of a hut. Appliqué fabric in natural colour, held down by buttons, represented the veranda (Fig. 5).

During another Photovoice discussion, a participant discussed a photograph she took of her neighbour wearing traditional Venda attire. She suggested that the detail found on traditional attire, that included rows of stitches and ric-rac, be featured on some of their own Venda-fusion products. All the group members appreciated this idea and it was subsequently incorporated on the hems of aprons and miniskirts through creating brightly coloured decorative bands against the plain colour of the main fabric. The miniskirt became an instant best seller for the younger market, both locally and for visiting university students (Fig. 5 and 6).

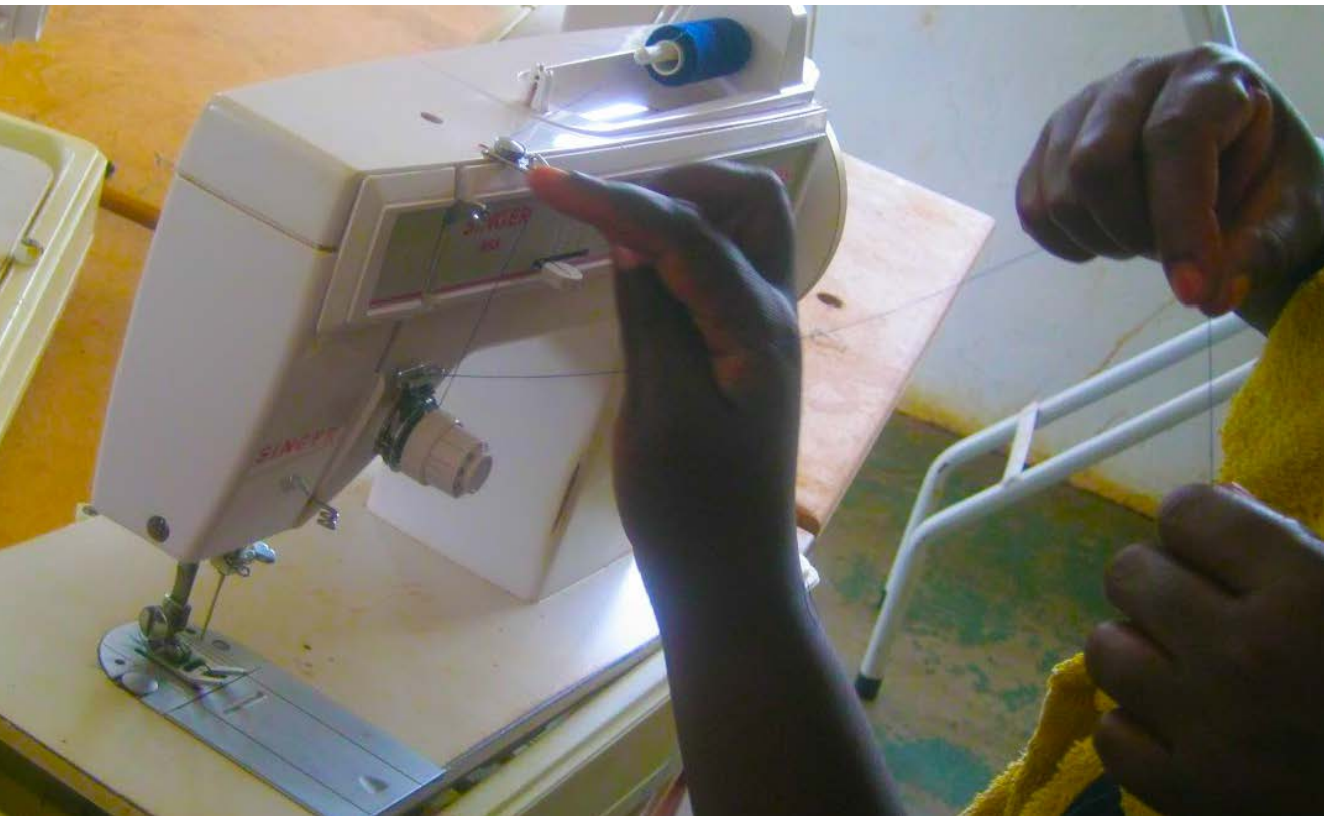


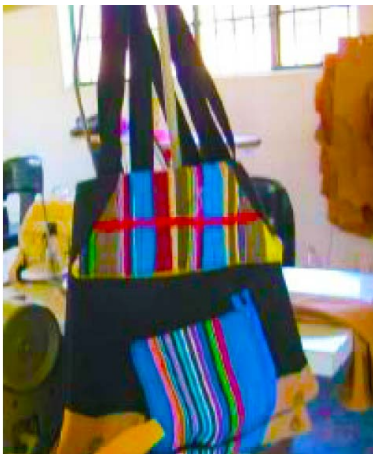
Figure 1 (top, this page): Participant photographing machine threading sequence. Source: *Authors.*

Figure 2 (lower left, this page): Baobab tree photographed by the participant. Source: *Participant. Used with permission.*

Figure 3 (opposite top left): Grass-roof thatched hut photographed by the participant. Source: *Participant. Used with permission.*

Figure 4 (opposite top centre): Handbag interpretation. Source: *Authors.*

Figure 5 & 6 (opposite top right and lower image): Skirt with the hem detail conceptualised by the participant. Source: *Authors.*



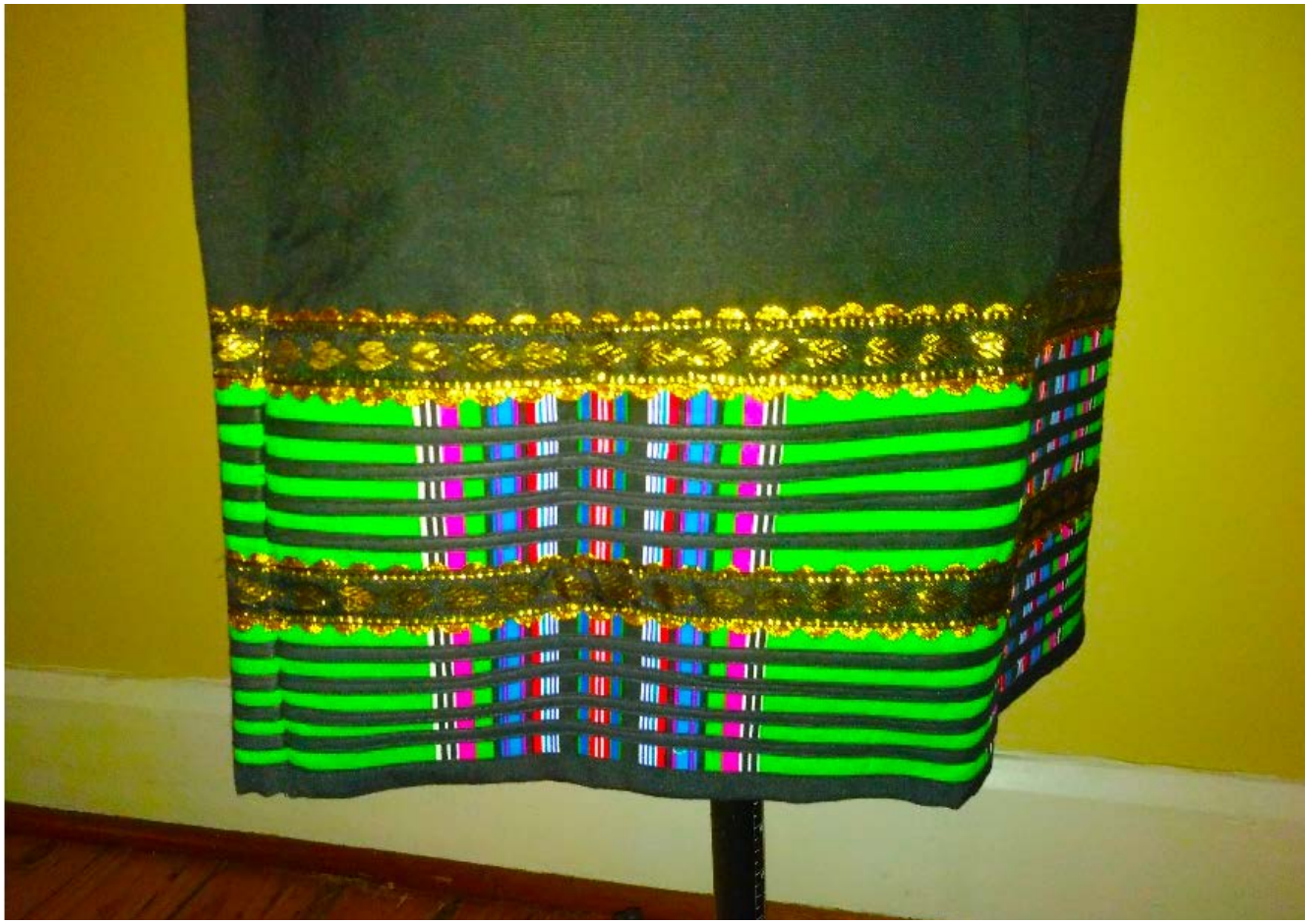


Figure 7 & 8 (this and opposite page): New branding of co-operative. Source: *Authors*


ZWANAKA

The development of Venda-fusion products also relied on oral tradition. The women developed tray-mats and placemats independently, and incorporated tshiVenda phrases through tightly packed embroidery phrases such as *u fhata mudi ndi lufuno* ("taking care of one's home is an expression of love") (Fig. 7). A crochet detail was added around the ends of the tray-mats that picked up the colour of the embroidered text.

As the sewing and design skills of the group improved over time we agreed to expand on the co-design process by branding the products with labels. This happened through collaboration with art students from a Johannesburg-based printmaking centre. The remaining photographs and drawings generated from the "pathway exercise" were given to the art students to inform their print development process. The final design the group chose included some of their own symbols of drums, cattle, the sun, and a baobab tree, with the name of the co-operative silkscreened. To ensure the sustainability of this practice the group took part in a basic silkscreen workshop. They were given silkscreen equipment, including screens with the exposed label design, a squeegee, and some printing ink so that they could use to generate labels as needed by themselves. The group members decided that the labels would only be printed during quiet and rainy seasons. Because they found silk-screening to be time consuming they suggested it be done during quiet periods for business. They also found the copious amounts of water it required to be challenging, especially in the context of water paucity in HaMakuya. Therefore, they suggested silk-screening during rainy seasons could ensure that there is more water that can be used in the process.

At the end of this design experience the participants were asked for their impressions of designing and making Venda-fusion products. Some statements by participants indicate that the level of stakeholder involvement in a co-design process for this context enables sustainable and long-term learning. Statements indicative of this include: "I think in future we will stop going to shops to buy but be able to make everything ourselves," and "With this project there's a change in me because there's an improvement and change compared to what I knew back then and what I know now. This is important because I have learnt a lifetime knowledge something I can use in the future."

Other participants' comments indicated that their involvement also leads to the development of agency and confidence in themselves and empowerment: "When I started I couldn't do a single thing, not even to use a sewing machine but now I sew pencil cases, I can sew a two-piece outfit, I can sew a bag, I am very proud of myself," and "My confidence in sewing and business has improved because before I could only sew *mukhasi* and *nwenda* without using the tape measure and only by looking at the customer's body size and guessing it, but now I use a tape measure… This is important to me because some people paid thousands for this opportunity and I paid nothing and on top of that I make money for myself."

The co-operative sparked the interest of many community members, but after a year and a half of its operation many were still unsure about their activities due to a lack of visibility. The group discussed this interest in the community and we decided to officially launch the co-operative through a fashion show where all the products were displayed. This also served as one of the research outcomes of the study. During the planning of the presentation the participants held meetings with a local band to provide music for the day. The group also engaged with the local tribal committee to inform the headmen of different villages about the show. During this meeting we also requested permission from

the headmen to hang hand-painted banners to advertise the event in their villages. The banners were painted with the help of a visual art student who was on the Arts-based Approaches for Development program as well as a local sign writer. The group used role-play to plan ways to interact with their local, as well as outside, clients. The community supported the launch by both attending the fashion show and purchasing some Venda-fusion products. Some concluding impressions of these activities included a statement by a participant, "We are shown things we would never think of doing like to advertise like this (referring to the banner) we would never think of doing it like this. But people ask when they see them and it helps because it is written in *tshiVenda*". Another comment by a different participant was, "One woman was looking at this (banner) and she asked about the co-operative and what would be happening. I explained to her and she started telling others about the fashion show."

While the idea of the banner may have come from an outsider, a co-design process features a "coming together" of different ideas, including ideas of the participants as well as the outsider-designer. The vibrancy of the banner created with bright colours and drawings sparked interest and created conversation about the co-operative, which we interpret as a significant achievement for the group as it generated broader community interest and visibility. The skills of a local artist and sign writer were included in the collaborative painting to ensure that this affordable local marketing strategy can continue.

Conclusion

The Arts-based Approaches for Development program officially ended in 2014, but the *Zwonaka* sewing co-operative continues to exist, run independently by its four members with income generated solely through sales that are shared equally among all members. The group established a business account where profit is saved for further expansion of the co-operative, such as purchasing new machinery and designing new Venda-fusion products. In this article, we claimed that working as part of a *co-* has existed in Africa for many years as expressed in oral tradition as well as through everyday practices such as co-parenting and communal meetings. Therefore, with *Zwonaka* being situated in a traditional African context it became sensible to adopt a collaborative and participatory design approach. Inevitably, differences on various levels existed, but acknowledging and working through them became an imperative to mobilise the co-design process of this social context where the agency of the participants resulted in their ability to place themselves at the centre of their own self-making.

Design at a social context has been applied across different disciplines such as furniture design (Munyai and Mugendi 2014), agriculture and food industries (Manzini 2013; Gong et al. 2010), and service design (Gong et al. 2010). These cases demonstrate how design social might embody themes such as collaboration, equity, agency, and sustainability. Likewise, the case of the *Zwonaka* co-operative we maintain embodies these themes. However, the case contributes how within a co-design process we as designers might grapple with the tension of language and interaction across all involved stakeholders. Using visual and arts-based tools such as Photovoice, photography, and creative design can strengthen partnerships with community stakeholders. The use of arts-based tools might also address the challenge of participatory design projects "continuing long enough through the development and implementation of new products" (Robertson and Simonsen 2012, 5). This case contributes a new perspective to the emerging field of designing with and for society from a fashion design angle. The *Zwonaka* project

succeeded in addressing economic sustainability, empowerment, substantive learning, skills training, and product design and development, which we contend is an instance of "design for social innovation" (Manzini and Rizzo, 2011). Arts-based approaches can be integrated into the iteration of co-design processes that lead to flourishing partnerships and enable full and active participation in design activities, which contributes to design social through both theory and practice.

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Bio

Khaya Mchunu is a Lecturer in the Fashion and Textiles Department at the Durban University of Technology (DUT) in Durban, South Africa. He received his Master's Degree in Technology: Fine Art from the University of Johannesburg in 2014 for a project undertaken under the Arts-based Approaches for Development programme. He continues to embark in community development and activism through his lecturing and currently facilitates a community engagement project in the Fashion and Textile Department. The project is a partnership with a sewing project called *Sewing 4 Africa*. The project has been presented widely in conferences around South Africa and has recently been awarded the DUT's Chancellor's Award for innovative excellence in engagement.

Kim Berman is Professor in Visual Art at the University of Johannesburg (UJ) and Executive Director of Artist Proof Studio (APS), a community-based printmaking centre in Newtown, Johannesburg which she co-founded APS with the late Nhlanhla Xaba in 1991. She received her B.F.A. from the University of the Witwatersrand in 1981 and her M.F.A. from the School of the Museum of Fine Arts/ Tufts University, USA in 1989. She completed her PhD at the University of the Witwatersrand in 2009. She has lectured and exhibited widely in South Africa and internationally. She is committed to engaging arts for social change through her activism and teaching. Her book: *Finding Voice: A visual approach to engaging change*, published by the University of Michigan Press was released in December 2017.

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003

The Social and the Spatial, Urban Models as Morphologies for a 'Lived' Approach to Planning

Gerhard Bruyns

52–73

How and in what manner has the social been instrumental in formulating planning policies, and does Hong Kong ascribe to any social concept that facilitates its current spatial planning framework? The legacy of the social in planning originally came to fruition within the *Chicago School* of Social Sciences during the early 1920s. Since then, the understanding of the social and how planning responds to the social has been wide and varied. This paper examines the social's application in spatial notions in addition to its context within Hong Kong. At its core this argument outlines the consequences of a social notion within planning and the spatial modes of recourse. Issues of scaling are brought into question when addressing planning as well as economic focus, in both the local as well as regional governance levels, which further emphasises the dynamic proxies of social and spatial factors for territorial planning. Having neither of these, the argument then highlights the realities of economic asymmetries in the disempowerment of a local populous through land speculation and housing shortages.

#Lived Morphology

#Social Futures

#Urban Models

#Monocentric vs Polycentric

#Spatial Planning

Social models and the link to the urban

A question that is still of significance in the contemporary urban discourse is, "How and in what manner have social issues been instrumental in formulating planning policies?" Additionally, "Does Hong Kong ascribe to any social concept that facilitates its current spatial planning framework?"

Since the turn of the twentieth century, sociology has played an active role in understanding the city structure and urban development through the work of sociologists, Ernest Burgess (1886-1966) and Louis Wirth (1897-1952), amongst others. As a guiding premise, their respective takes on the city as a social form – in its distribution, order, arrangements, and class system – has forever fused the social with the city, in either of their ecological understanding of the city and its analysis (Burgess 1928) or in a broader understanding of urbanisation as spatial-technical entity (Wirth 1938). Adapted by other disciplines, the socio-spatial perspective of the city resonates in discourses such as urban morphology, urban geography, and spatial planning in their respective attempts to align the social with urban form, geographic conditions, or planning instruments (Lin and Mele 2013; Fyfe and Kenny 2005).

Since Burgess' original land use model, several variants have further investigated urban *organisation* through an understanding of the social, each of which produced distinct conceptual anchors for analysis. The models of Hoyt (1939), Mann (1965), Ulman and Harris (1965) have in each instance advanced the understanding of the social, as a technology of living, and extrapolated it to larger scale planning propositions. The side-by-side comparison of the socio-economic with that of the spatial, defines urban typologies and developmental trends that are shared between each of these methods.

Although these models advanced the understanding of urbanisation, the same models have since received blame for both their social and spatial misconceptions, and for inspiring flawed spatial ideologies (Fishmann 1977; Vanstiphout 2008; Watson 2009; Low 2012). To this effect, the rise of asymmetrical social landscapes (Kaminer 2010), the splintering of the city (Graham and Marvin 2001), and a misreading of social agency (Simone 2014) has, at the hand of *top-down* planning, established the misgivings of the *creative, organic,* and *sustainable* city paradigms. This forced many to take a counter stance against rigid forms of development in favour of emergent *attitudes* in planning (Pinilla-Castro 2010).[1]

This paper focuses on the question of what happens when there is no definable link between the *social* and *spatial* of the city. What occurs when planning overlooks the *social?* To do so I wish to use Burgess' *Concentric Model* as a point of departure to reflect on the understanding of how the social has been used to define a formal language of urban analysis. Secondly, to question the translation of these social models in contemporary terms. More specifically, in the Hong Kong context, to show how the idea of the 'social' is disembodied between social thinking and spatial planning.

Reading the social as form

Ernst Burgess proposed an empirical framework to industrialize cities of the 1920s. The initial model, and its variations dated 1924, 1925 and 1927, kept to a city that conformed within a concentric arrangement and radiated from the central point—or in contemporary terms the *Central Business District* (CBD)—outwards. As a faculty member of the Chicago School of Urban Sociology, one of the leading sociology institutions at that time, Burgess aimed to articulate biological concepts, or social ecology, in urban terms. In this framework,

ecology and its application in the social sciences placed emphasis on communities in terms of the geographic interpretation of ethnicity, class, and social policy, a taxonomy of a social *species* of sorts (Harding and Blokland 2014, 44-45).

In a formal sense, Burgess's model consisted of five concentric rings. Each concentric ring formed a *successive zone* to the previous. Individual rings were allocated to a specific social class that related to economic dispersion and urban functions. As such, each zone was indicative of specific functions that included production, places for living, and places for commuting. Social distribution conformed to a similar hierarchy. In comparison, urban centres of preindustrial cities that preceded Burgess' model indicated places that were dedicated exclusively to noblemen or the social elite. In the industrial urban form to which Burgess' model ascribes, the most exterior ring of the model was claimed by those who had the means to commute between their dwellings and the city centre. Wealthy social classes migrated daily between the city centre and residences far beyond the *original* boundaries of the old city, due to inner urban squalor, neglect, and conditions of overcrowding. The CBD, at the heart of the circular form, remained the centre of the economic, cultural, and political life. The CBD itself contained an inner core surrounded by zones of industry that were adjacent to working-class neighbourhoods.

Credited as a normative model (Haggett and Chorley 1967), Burgess' proposals simplified urban complexity for the American city. The concentric notion highlighted an unavoidable condition of the industrial landscape, in its methods of growth, and its steady consumption of the landscape through extensive suburbanisation. Each zone is clarified under its own cultural traits and behavioural attitudes, and highlights the existence of types of communities.

Burgess' model is negatively critiqued for its *ideological* intent (Lin and Mele 2013, 3). First, the model is geographically critiqued for its formulation on isotopic planes, ignorant of the actual geographic landscape in which cities emerge. Industrial areas that contain mixed functions or dwellings were incorporated with the *predominant* function of that zone. Secondly, the model demonstrated clear differences between the social complexity of industrial cities, in comparison to the prevalent social hierarchy in pre-industrial settlements. With the social elite's abandonment of the inner-city areas, and the subsequent inversion of social hierarchy, the model failed to fuse specific conditions with a broad and generic model. Thirdly, the lack of insight into the forms of engagement between individual and various groups, highlight the blind-sidedness of jointly interpreting the social as a product of urban economies (ibid) or their clustering effect. Fourthly, the emphasis placed on the complexity of suburbanisation, and the impact it had on the urban hinterland, avoided the interrogation of spatial development; spatial patterns of use or developmental tendencies, either morphologically or in terms of typologies of use. And finally, criticism on the model highlights its obsession with biological ideology. The omission of political manipulation, *choice* structures, and other urban processes overlooked additional influences that may or may not impact social clustering, including land use, gentrification processes, or the way negotiations occur between parties (Ruiz-Tagle 2013). To this effect, Burgess' approach to the social as an ecology saw inequality, urban poverty, crime, and segregation as necessities for the longevity of urban areas.

Subsequent to Burgess' model, the proposal put forward in the form of the *Sectoral model* of Homer Hoyt (1939), *Sectoral and Concentric Model* of Peter Mann (1965) and *Multiple Nuclei Model* by Chauncy Ulman and Edward Harris (1945) extends Burgess' thinking through revised social-spatial

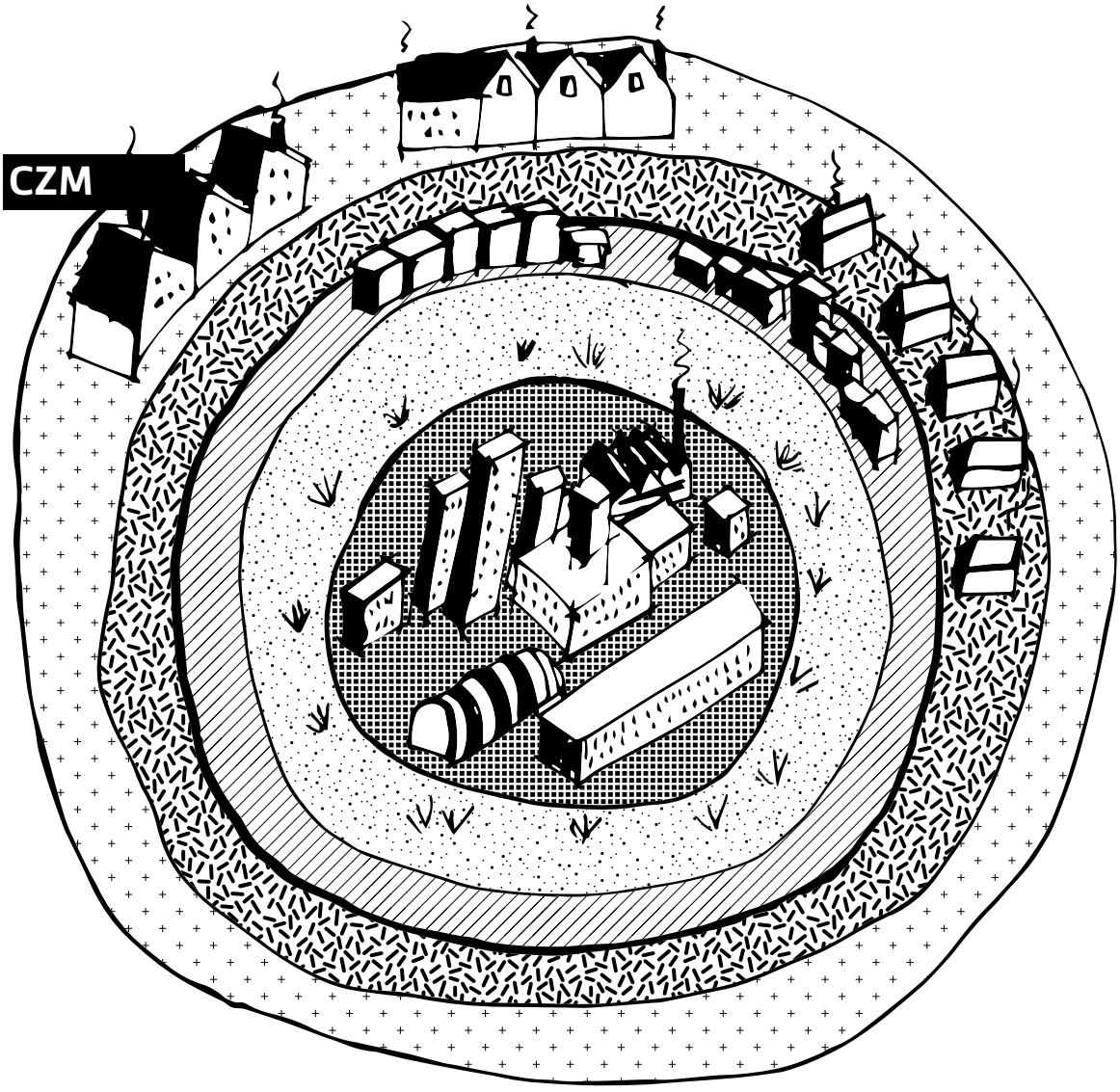
propositions. Overall, in each case the formulation of the alternatives demonstrate the influence that the economic and social conditions of the city had in the various attempts to define the core essence of urbanisation.

The economist Homer Hoyt's empirical model extends Burgess' notions by operating from within zones and quadrants, and is aptly termed the *Sectoral Model* (Pacione 2005, 144). This model relies on a survey of rent gradient in American cities, and expresses a spatial landscape in five basic sections: 1) a CBD; 2) high-income housing; 3) middle income housing; 4) low-income housing and; 5) a wholesale sector. The model reflects how homogenous (residential or non-residential) sectoral wedges grew outwards from the inner centre or core. More importantly, a concurrence was noted in the model, especially for the larger and more extensive wedges, that spread outwards in direct relation to larger and more extensive transportation routes.

Ullman and Harris' social-spatial model was termed the *Multiple Nuclei Model* (1945).[2] Their model represents a complete alternative to the concentric model which had dominated the formal models of urban structure up until 1945. The Multiple Nuclei model interpreted the city as originating from a variety of urban nuclei.[3] Eight nuclei, a combination of social distribution and functional structures, are categorised under: 1) high-class residences; 2) medium class residences; 3) lower class residences; 4) wholesale; 5) CBD; 6) industrial suburb; 7) residential; and 8) heavy residential.

In comparison, Mann's Sectoral and Concentric model (Mann 1965), integrated both Burgess' and Hoyt's preceding concentric and sectoral models. Using British medium-sized towns as cases (Huddersfield, Nottingham and Sheffield), the model collapses the characteristics of a concentric town with sectoral principles, and *wedges-off* functio-nal zones that intersect the concentric structure. Mann's model held to the CBD as a central point at the heart of the city. His definition of socio-economic areas that are reflected in his definitions of *low-middle-class-sectors, lower-middle-class-sectors* and *industry sectors* are further segregated from one another each with a distinct layout pattern because of this intersection.

Gideon Sjoberg's 1960 work entitled *The Pre-industrial City, Past and Present,* harnesses technology to read urbanisation. Sjoberg, another sociologist, steers Burgess' concepts away from ecological conditions towards the importance of technology in both social and spatial development. Sjoberg's claim is based on definitive configurative characteristics, shapes, sizes, economic, and demographic compositions that mirror social hierarchy and benchmark the *preindustrial (pre-1830)* and an *industrial (post-1830)* urban period. Folk, preliterate, or feudal social forms reflect social hierarchy that directly relates to its inherent urban structure (ibid, 7). In addition, the claim is made, that technology becomes a *central force* in territorial transformations. A shift in technology produced a time-divide that culminated in alternative social and spatial forms. As such, the concepts of transformation, whereby inanimate sources of energy are applied as tools in man's surroundings is effectively credited for transforming the preindustrial age into an industrial landscape spatially, structurally or socially. As an effect, the city, its layout, and configuration, mirror the way class structure and upper levels of society arrange the functional orders of the city through available technologies (ibid, 9-11). Furthermore, Sjoberg's model hinges on the notion of central and peripheral social-spatial distinctions. The inner core ranks high in terms of social and urban hierarchy as a place of importance, whilst the exterior hinterland is indicative of places of less importance. The more



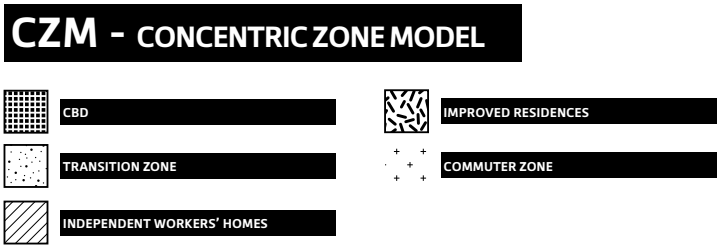
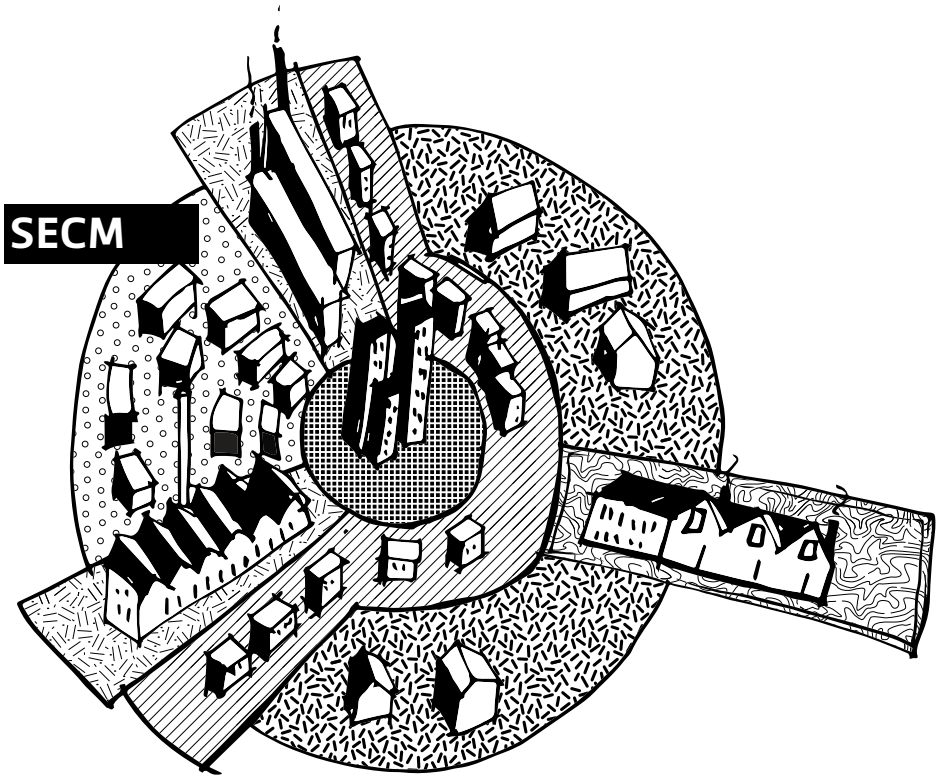
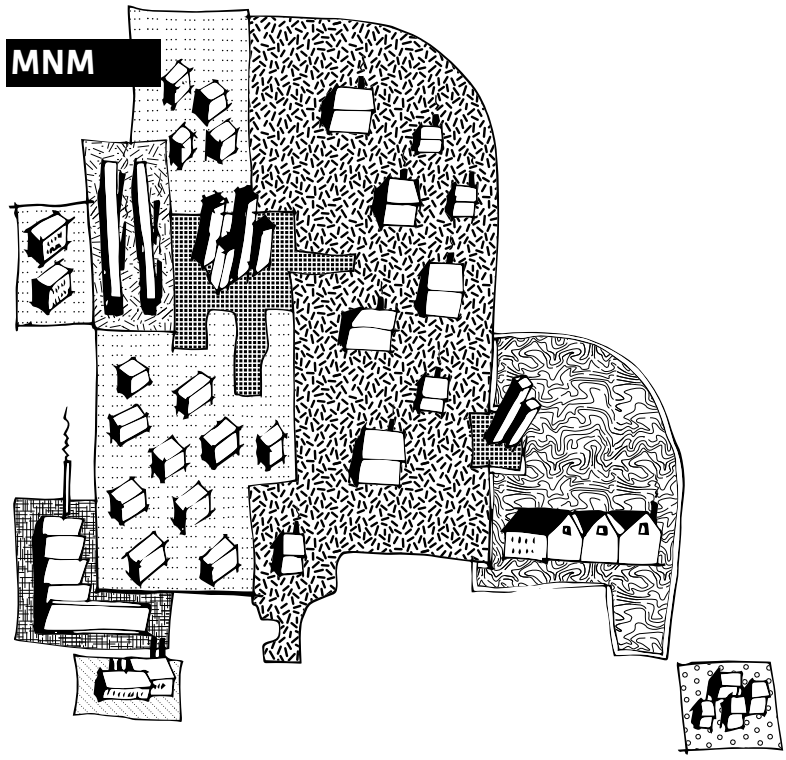


Figure 1 (top, this page): Social-spatial urban forms after Burgess' Concentric Zone Model (CZM). Mixed media drawing. Source: *Author.*

Figure 2 (page 57, top): Social-spatial structure after Hoyt's Sectoral Model (SECM). Mixed media drawing. Source: *Author.*

Figure 3 (page 57, bottom): Mann's Multiple Nuclei Model (MNM) as social-spatial structure. Mixed media drawing. Source: *Author.*


SECM


MNM

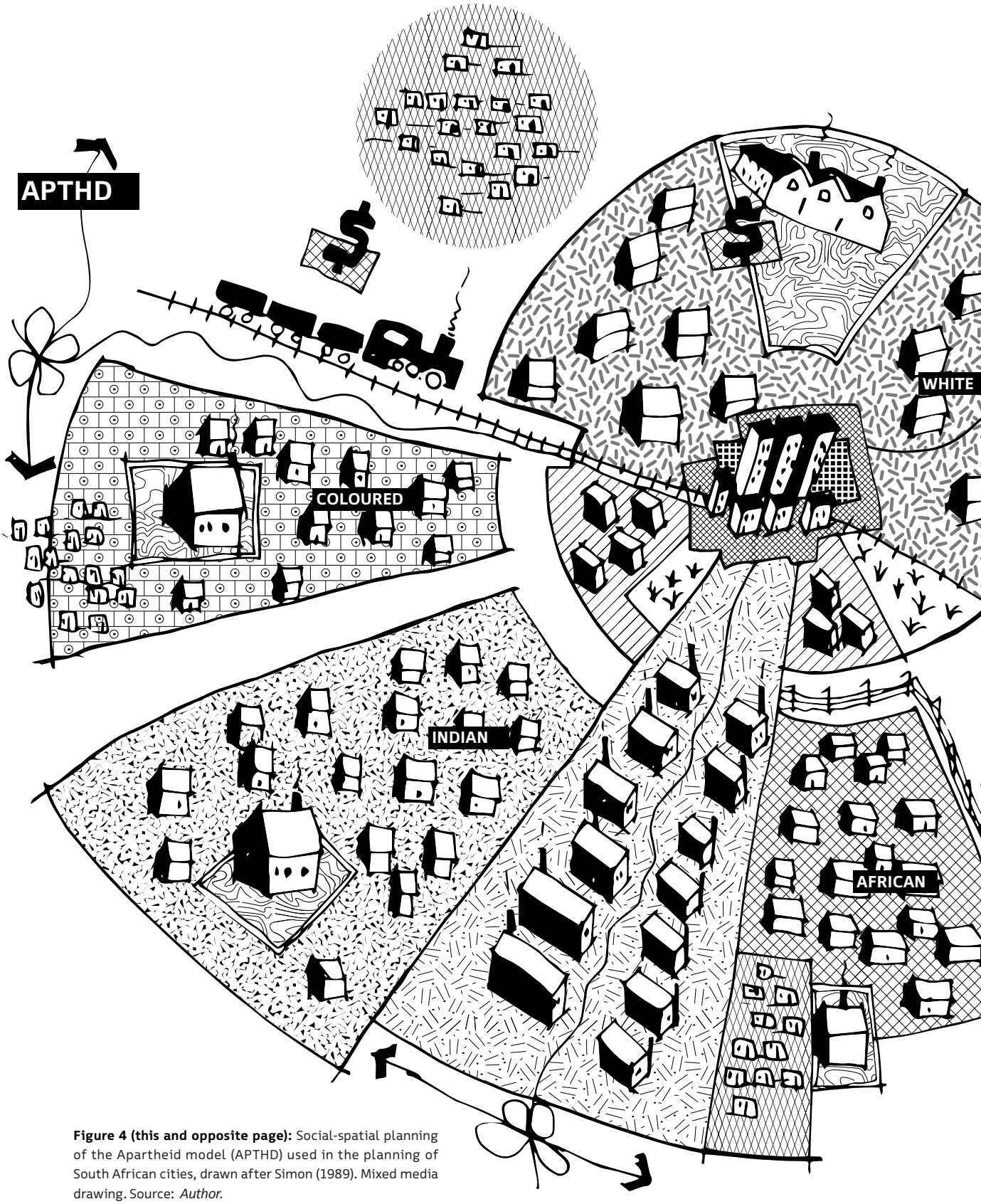
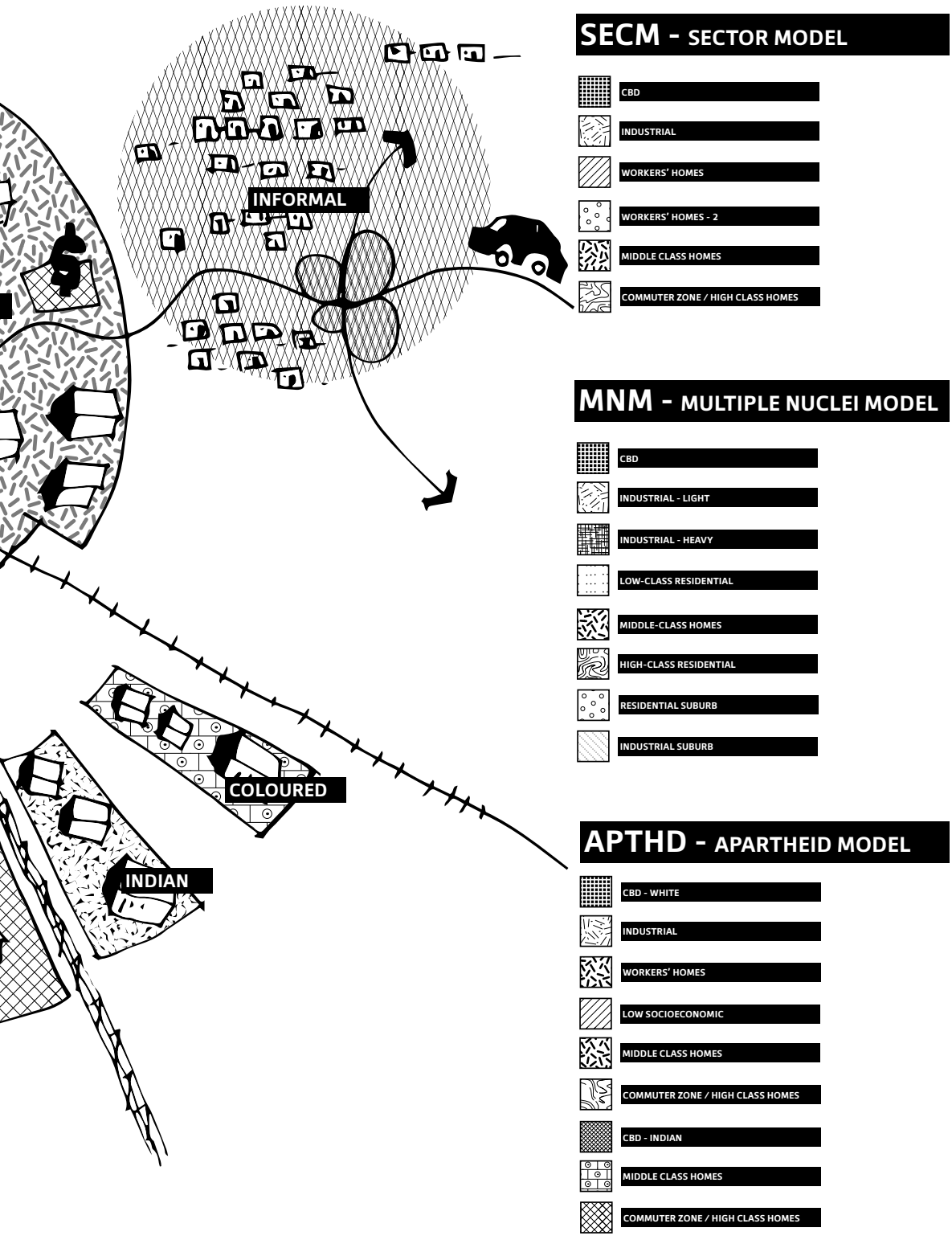


Figure 4 (this and opposite page): Social-spatial planning of the Apartheid model (APTHD) used in the planning of South African cities, drawn after Simon (1989). Mixed media drawing. Source: *Author.*



SECM - SECTOR MODEL

- CBD
- INDUSTRIAL
- WORKERS' HOMES
- WORKERS' HOMES - 2
- MIDDLE CLASS HOMES
- COMMUTER ZONE / HIGH CLASS HOMES

MNM - MULTIPLE NUCLEI MODEL

- CBD
- INDUSTRIAL - LIGHT
- INDUSTRIAL - HEAVY
- LOW-CLASS RESIDENTIAL
- MIDDLE-CLASS HOMES
- HIGH-CLASS RESIDENTIAL
- RESIDENTIAL SUBURB
- INDUSTRIAL SUBURB

APTHD - APARTHEID MODEL

- CBD - WHITE
- INDUSTRIAL
- WORKERS' HOMES
- LOW SOCIOECONOMIC
- MIDDLE CLASS HOMES
- COMMUTER ZONE / HIGH CLASS HOMES
- CBD - INDIAN
- MIDDLE CLASS HOMES
- COMMUTER ZONE / HIGH CLASS HOMES

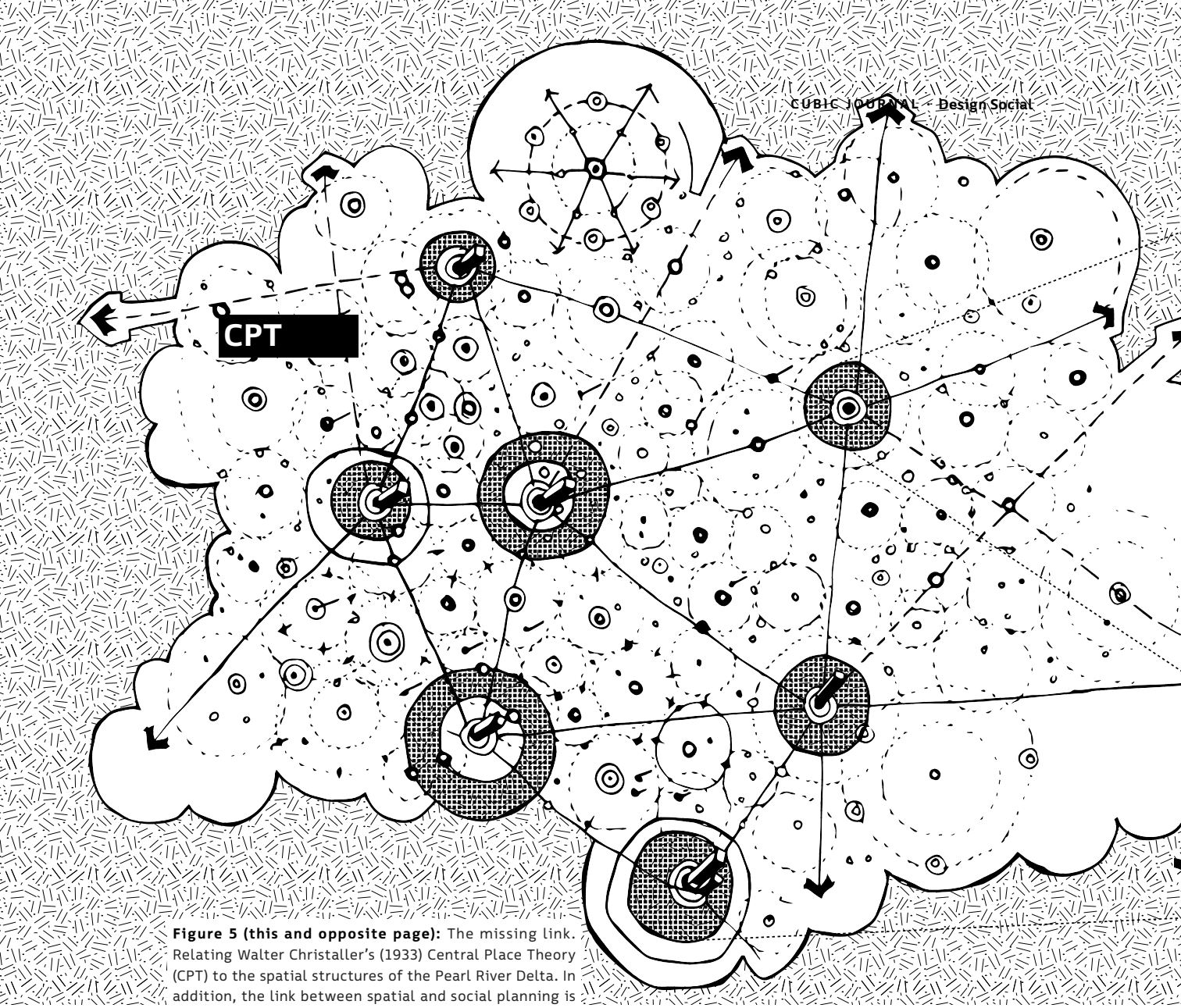
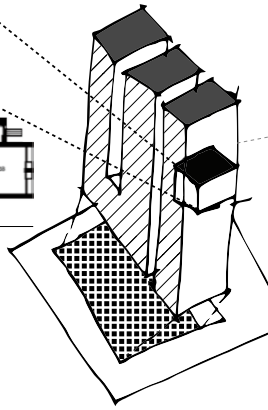


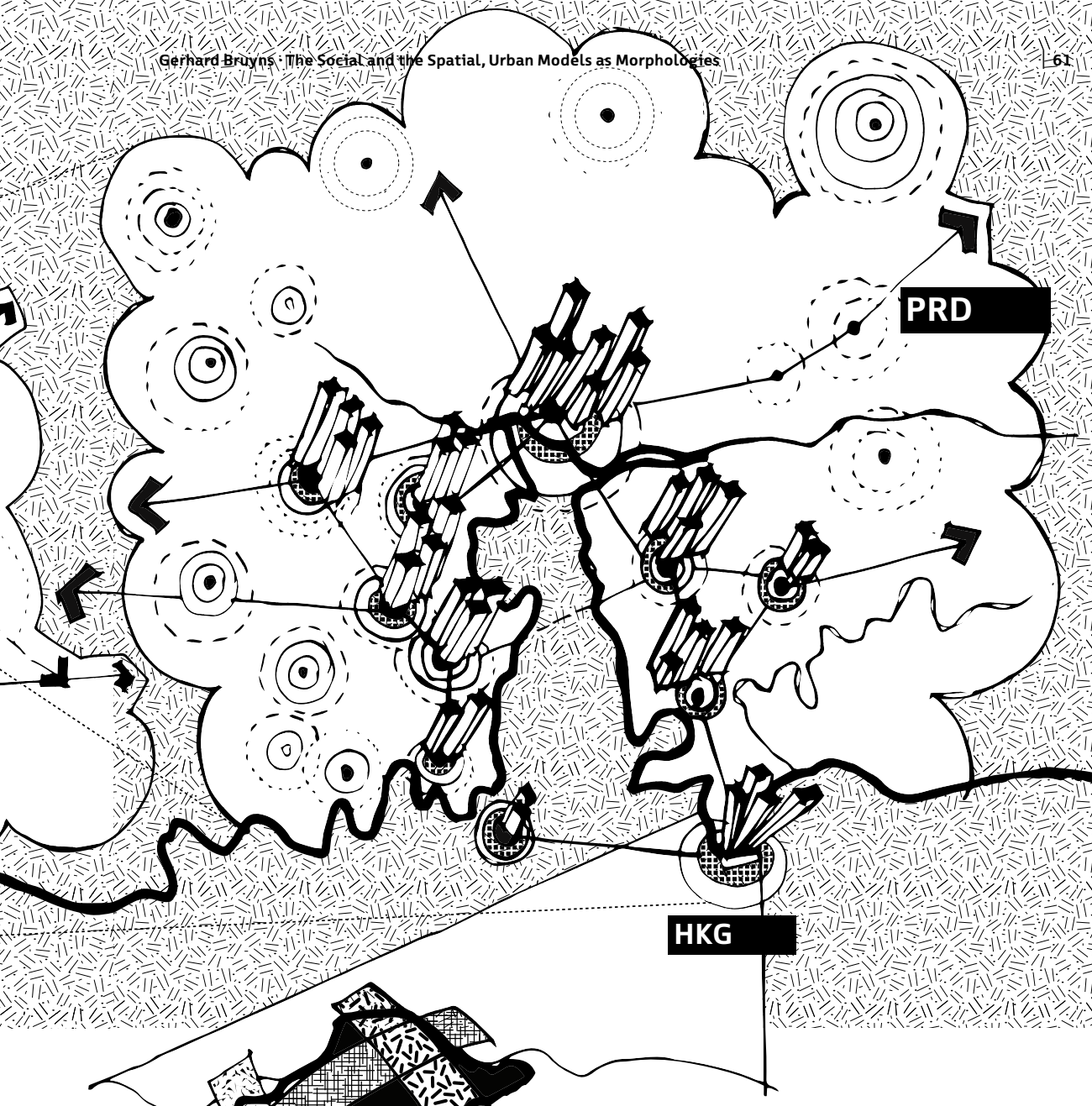
Figure 5 (this and opposite page): The missing link. Relating Walter Christaller's (1933) Central Place Theory (CPT) to the spatial structures of the Pearl River Delta. In addition, the link between spatial and social planning is brought under question for Hong Kong's practices of social scripting and effectively its blindsided compressed social morphologies. Mixed media drawing. Source: *Author.*

INTERIOR REALITIES
A SQUARE FOOT SOCIETY

SPATIAL LAYOUT
COMPRESSED MORPHOLOGIES



URBAN BUILDING BLOCKS
COMPRESSED MORPHOLOGIES



CPT - CENTRAL PLACE THEORY

- URBAN CENTRES
- INDIVIDUAL URBAN SETTLEMENTS
- PLACE REGION

PRD - PEARL RIVER DELTA

- KNOWLEDGE & TECHNOLOGY CORRIDOR
- ECONOMIC BELT
- ECONOMIC CORRIDOR

central the location of the activity within the city, the higher the social status or the economical merit. This is evident in the physical locations of religious structures, palaces of kingship, or places of ceremony within the pre-industrial model.

Often not discussed in its evolutionary trajectory is the link between Burgess' perspective and older models of spatial analysis that are closely tied to the pre-industrial city. *The Isolated State model,* proposed by the spatial economist Johann Heinrich Von Thünen and dated 1826 (cf. McColl 2005, 273),was the first to formulate a similar social spatial concept for all pre-industrial settlements. Von Thünen's approach to urban structure and its social implication resulted from the enquiry into how social structures emerged, in the medieval sense, thanks to region-based economic activity. Von Thünen was regarded as the most influential thinker on the notion of location theory, which assumed man's ability to deliberately arrange economic activities around a central point in relation to regions of production (fields of agriculture) that were closely tied to social hierarchies. Influenced by the distances between settlement centres and economic functions, Von Thünen describes the co-dependencies between economic and social clusters constructed in isotropic planes. Although more economic in its orientation and hypothesis, the model in effect remains social as it attests to how social hierarchies become spatially specific. This ultimately highlights social rank in terms of their spatial positions.[4] Overall, Von Thünen's model embodied a more sophisticated position of the social, in as much as its understanding of both location theory and social use to formulate a larger urban framework for settlements and their regions. This approach was mostly undervalued by later proposals that examined the industrial city, as shown by the concentric model of multiple nuclei models of the mid-twentieth century.

In this position, the geographer Walter Cristaller's 1933 *Central Place Theory* (in association with A. Lösch), extrapolates Von Thünen's proposal at a macroscale. Christaller's method is a reading of central urban formation within a distributed territory, that is to say a number of urban centres scattered across a vast landscape (cf. Baskin and Christaller 1966).[5] In summary, a settlement's survival is closely tied to land availability, which indirectly implies the need for land for larger settlements. Classification of centres operates on the basis of seeking places where various production services are located, in comparison to peripheral *empty* regions. This questions how societies dwell differently in either the central or peripheral regions. Although it represents an urban structure more than a social model, its usefulness for the discussion here is one that questions a distributed urban form in relation to social processes of work-life relationships within an urban structure with many nuclei, similar to high density regions of Asia's Pearl River Delta. People's willingness to travel to access central serviced areas enforces the hierarchy of specific settlements, and emphasises the differences between the model as a formal entity and that of the lived, or how people engage and spatialise daily life.

Linking back to Wirth's *Urbanism* concept (1939) where the city, as a *way of life*, remains a spatial-technological entity, socially held together within specific organisational models of individuals, institutions, and expressed relationships, balance against inhabitant's norms, standards of behaviour, and attitudes which appears to have a greater impact within urban planning than given credit for. This overview of models is instrumental in summarising both the *social* and *spatial* on equal footing, and their respective strengths and weaknesses as design frameworks and respective forms of analysis. Each model brings to bear the translation of a spatial form into a social context.

As such these models become indicative of a specific response to spatial concepts. In support, they clarify the use of planning mechanisms that help steer territorial governance, regional programming, and neighbourhood design for social longevity. The co-dependencies between the social, spatial planning, and design, whether at the scale of the metropolitan structure, neighbourhood, urban block, or dwelling typology, therefore remains part and parcel of the same challenge.

Over prescription of the 'social'

The application of social models as planning instruments does present problems. Lee (1994, 35) highlights the use of the model's inability to disentangle issues, thus operating as a *black box* phenomenon, which questions their impact within design. Lee further alludes to why social models affect planning practices to such an extent, when he comments on planning's, then archaic, practice and praxis as an ideal testing ground for other types of influence.

The modern project's socially specific agenda inadvertently established spatial doctrines that promoted the social. Le Corbusier's The City of Tomorrow and its planning (Etchells 1971), Frank Lloyd Wright's Broadacre City (1932), and the Ebenezer Howard's Garden City (1898), were not only exemplary in their utopian ideologies, they each promoted the rise of the new bourgeoisie (Fishman 1977). In each instance ideology was themed and then further translated into a form language, held together by comprehensive functional programmes and their prescriptive social structures. Cities were analysed and planned according to functional zones that mirrored social ideals in terms of places of work, places of leisure, green spaces, places for heavy and light industry, and places for living based on race and class (Somer et al. 2007). At each scale of planning the social remained on equal footing with that of urban design. The social's relationships to the structural layout, cluster, and patterns of urban formation were interwoven at all levels with the various spatial typologies that echoed into the design of public spaces of the city, function, and operational arrangement. At its extreme, despite its good intentions, its legacy is associated with the *over prescription* of the social, through devisable planning in the industrial city and subsequent social-spatial models.[7]

One of the most noticeable failures of social-spatial planning in modern history remains the Apartheid model that was implemented during the 1930s by the South African Government (Steenkamp 2008). Essentially, this model enforced social and spatial division based exclusively on race. As diagrammed in Morris (1981), it remains a chilling reminder of a social doctrine of planning that scripted all forms of social, spatial, functional, and financial development between 1930 until the early 1980s. With formal characteristics similar to the spatial distribution of Hoyt's Sectoral model, and low density sprawled across a vast landscape, the Apartheid city's spatial language holds to a city structured with a central core and a less significant peripheral edge, all racially scripted (Steenkamp op. cit.). Being of a circular shape, the model's inner core is designated as a – white or European – Central Business District (CBD). All other zones are situated in relation to a central and white dominated business core. Wedges of the circular shape, directly adjacent to the CBD, are defined as zones for specific groups of races. These zones are reserved exclusively for white residential areas. A variety of other categories were further classified as part of a framework which laboured exclusivity of several wealthy white zones. Segments were classified based on high, middle, or lower *white* economic classes. High economic status had one segment alone, furthest from the lower or non-European zones. Middle-class economic segments formed the buffer regions of the city. Lower economic zones acted as intermediary zones.

They were located directly adjacent to the buffer zones and the non-European, or native zones. Buffer zones were emplaced to act as the strips of seclusion within the city, and divided "Europeans" and "non-Europeans". "Non-European" ethnicities, classified as Indian, Coloured, Chinese or Africans, each received an individual quarter within the city.

Its implementation was forceful, and utilised planning and infrastructure to its own means. Major roads radiated outwards from the CBD, dispersed through specific white residential sectors of the city. Although the model allowed for roads to cut across middle, or high scale economic zones, no roads or major routes bisected the non-European zones. Accessibility to and from non-European sectors was only possible via an industrial zone. All roads of the non-European or native sections had to connect to the main access way before being allowed to enter the core regions of any city. Infrastructure therefore became a means to a political end. In times of unrest, main roads and railways were closed off and made inoperative, which halted the flow of black workers directly into the city and forever altered the position of race within South Africa's spatial legacy.

In a European context, the failure of such social models is also evident. For Vanstiphout, the example of Amsterdam's Bijlmer,[8] and its well-meant articulation of spaces and society, misread political conditions against social needs of local inhabitants. As a consequence, it effectively produced the Netherlands first "third world city" (Vanstiphout 2008). Robert Fishmann (op. cit.), Wouter Vanstiphout (2008), Vanessa Watson (2009), Simin Davoudi (2009), and Iain Low (2012) address the ineffectiveness of modern ideologies to become more social. The allowances made within *free reign*, large scale, spatial planning and its manipulation of the social exposed the need to reconceptualise, and remains a failure from an ideological perspective. Marinda Schoonraad's thesis (2004) on the South African city is another case in point, which highlights greater social segregation than integration within the post-Apartheid city. As Daniel Schensul and Patrick Heller (2010) point out, the continued over-emphasis of "macro" scale conditions in spatial planning omits both complexities and conditions of the "micro" forces at play, and delivers only a singular perspective, termed the "local", or its understanding. Using the post-Apartheid model as an example, both Schensul, Heller and Low articulate the asymmetrical conditions caused through the disconnection of spatial thinking through race, class, and space. With several investigations that either focus on neighbourhoods or on the entire city, the concern remains how to fill the so-called "voids" of scalar planning, and realign competing rationalities between that of the modern and of the local (Watson op. cit., 151; Low op. cit.).

Social-spatial frameworks and the Hong Kong SAR

How is this link between the social and the spatial made in the context of Hong Kong? Social-spatial planning still remains vague in terms of planning. The Special Administrative Region (SAR)[9] has always been a "market city" (Ohno 1992) driven by economic directives in which planning had to find symbiosis. In its physical expression it remains a landscape that embraces amplified levels of excessiveness, and has allowed *manic* density to materialise in vertically stacked urban infrastructure. Anthony Yeh (2006) and George Lin (2011) both question Hong Kong's future under the *one-country-two-system* policy. The gradual, yet consistent, "emptying out" of manufacturing services since the 1980s has forced the SAR to become dependent on speculative land-centred processes that are mechanised for the pursuit of revenue.[10]

In terms of planning, Hong Kong has not prescribed to any socially aligned planning framework since its proclamation. The colonial outline plan (COP), enforced between 1965—1974 (Hong Kong Planning Department 2015, 1), was seen by many as a policy of "indirect rule". As a double-edged sword, indirect planning policies failed to provide basic services to both locals and colonial expatriates equally. Through its policies, colonial rule emphasised economic development above policies that linked the social with that of the spatial as a means to benefit indigenous communities. Spatially, the system initiated a total land monopoly. Commencing in 1841, all land ownership was retained by the colonial office, which monopolized both the use and users of land. The Crown coffer, with leasing periods ranging between seventy-five to ninety-nine years, generated substantial incomes through the rental and rate taxations (Mar 2002, 35). The monopolisation of spatial scarcity *de facto* mechanised socio-spatial control. High population rates, lack of housing for native dwellers, and overcrowded colonial centres characteristically avoided social concerns, and produced immediate alternatives in the form of architectural solutions. These warehouses of the labouring class (Home 1997, 85) were substituted in place of broader concepts that recognised social and spatial guidelines in planning.

Socially, indirect rule resulted in racial hegemony, with the division of urban settlements in either a Chinese or European quarter. Hardly any regulations in place and lack of space ensured the proximity of each social group to one another, often with intangible boundaries separating them. For Mar (op. cit.), Hong Kong's rapid successions of urbanisation forced a society into constant improvisation. A general lack of space and excessive economic pressure meant a continued process of social-spatial adaption, where piecemeal and ad-hoc conditions characterised the spatial incentives at all scales. In addition, intense industrialisation until the 1970s, and the shift to a de-industrialised manufacturing related service economy (Tao and Wong 2002), further emphasized the question of what to plan and through what means.

The dependency on architectural types seemed to fill the planning void. The *Tong Lau* typology (Shelton et al. 2010) set in place the generic and socially driven shophouse prototypes that miniaturised social models at an urban scale. As a direct product of social needs and housing norms during Southern China's industrial surge (Lee 2010), the shophouse turned an architectural typology into a planning tool. Drawing from the availability of material, customs, and living standards, the *Tong Lau* institutionalised itself as the operative social-spatial container wherein to work and live, and established a spatial "datum" for neighbourhoods (Shelton op.cit.). Ironically, this architectural typology is simultaneously credited for Hong Kong's extreme forms of dwelling. Subsequent compression of the *Tong Lau* typologies resulted in Hong Kong's high density vertical typologies (ibid.). As such, cage homes, internal apartment subdivisions, and rooftop dwellings or beds placed along corridors remain derivatives. The further subdivision of floors as additional rental spaces or the compression of individuals into 2.2 square meter dwellings (ibid.), have in time become social concerns derived as a response to a society's redress against overcapitalised land and limited social foresight within planning.

Hong Kong's missing link

Ng (1986, 23) states that Hong Kong's planning system, has always been inconsistent and fragmented since its conception. Presently, territorial planning is strategised at two-tier, (i) territorial and (ii) sub-regional, scales (Hong Kong Year Book, 2004). The Territorial Development Strategies, or

the *Hong Kong 2030+: Planning Vision and Strategy,* plans regional intentions for both the SAR as well as its relationship within the Pearl River Delta. At the regional scale, two planning instruments take effect—the sub-territorial and district levels defined under the Outline Zoning Plans (OZP), and the Development Permission Area plans (DPA). Independently, these define planning directives and parameters, and harness zonal planning as a primary tool. Further, both express current and forecasted intentions through the means of functional patterns, use, and distribution.[11] Still, in either strategies or scales, the aspects, themes, and outlines of the social remain opaque.

It is understandable that Hong Kong's planning processes have always had to address a bipartisan scenario. From the mitigation between colonial ordinances and local conditions, to refocussing the territory's spatial alignment with its imminent reunification with mainland China in 2047, Hong Kong has to continuously grapple with centrifugal and centripetal development. In Yanxin Liu's words (2017, 13): *"Hong Kong remains a polycentric morphological model with a mono-functional urban construction"*. In this case, mono-functional or centrifugal refers to a singular entity and SAR status, as an enclosed and "self-contained" unit, where planning had to devise spatially-specific conditions focussed on Hong Kong itself. The polycentric characteristic refers to the SAR's multi-centrality structure, as a network of clusters and new towns that over time had to establish new links across its own territory as well as with Shenzhen, Guangzhou, and Chinese mega centres further afield. Therefore, in a similar light, the question of Hong Kong's social schematic remains a product of this duality. The consistent ebb and flow of Chinese migrants in relation to its local populous has, in addition, complicated Hong Kong's social projects, and has once again marked its social conditions as mono and poly-ethnic society structures.

In effect, the core of what this paper argues pertains to a territory wherein what is understood as the social always finds its alignment, not in social norms nor through spatial models, but in how the social is *industrialised* through the economic frameworks of value and economic growth. As Ng (op. cit.) argues, the overemphasis of "capital" and value has, in this light, produced planning instruments within, not against, a "capitalist mode of production". Ng continues by stating that the dominant planning model remains "derivative rather than creative" (ibid., 124), and is meant to maximise private growth and restrict co-operative involvement (ibid., 125). Whilst planning at the larger scale addresses the specific pressures of urban development, the omission of social models and their respective themes remains a clear oversight in how to strategise for the territory within governance levels themselves. The exclusion within planning to allow for scenarios to rationalise the social, in both spatial and economic terms, deliberately by-passes the importance of the social in both instances of the polycentric, as well as monocentric, planning incentives. This is felt on several levels.

First, the legacy of colonial planning, more specifically its inability to absorb spatial models as mechanisms to instil social progression, emphasises the disempowerment of the social in planning that has sprung from a colonial type. Secondly, morphological expression, architectural typologies, social mobility, dwelling standards (Hui and Ho 2003), and spatial configurations purposefully "lock down" social groups and isolate individuals in their miniaturised and fragmented appearance. Within the official stance on "Planning and Urban Design for a Liveable High-density City" (Hong Kong 2030+, 2017), spatial allowances in this vision earmarked provisions at the rate of 3.5 square meters and 2.5 square meters per person, which is mostly concentrated in new town development. Once again, these remain statistical

and not actual indices that reflect the territories' current realities. The design of public spaces remains limited when compared to the person-to-open-space ratios that planning currently supports, documented by Bo-sin Tang and Chung Yim Yiu (2010). Thirdly, the broad acceptance within planning guidelines that advocates compact city models as a sustainable model for future development remains a moment of concern. The continued rhetoric that a compact city would reduce car emissions, improve work-life balance, protect natural resources, and systematically promote other means of mobility remains vague in its impact on the social equality of the city (Burton 2000, 19). The modes of compression felt in both domestic and commercial spaces, reaching levels of fifty square feet per individual (Tsoi 2013; Bruyns 2016) remains evidence of an explicit mismatch between how planning incentives spatialise in actual terms that impact human sustainability, social mobility, or any of the "SMART City" ideas that fill planning rhetoric (Smart City Blueprint 2017).

Spatial planning directives contemplate infrastructure and connectivity far above the conditions of user groups. What planning negates, other spaces of the social makeup for. A 2015 survey of thirty families in Hong Kong's Sham Sui Po district demonstrated the reliance of the social, not in terms of urban space, but through the adjustments made through the urban interior. Meant to establish dwelling patterns, the survey effectively highlighted socio-economic hegemony that was overlooked through planning but dealt with through dwelling standards. Documentation of a) the identity of the inhabitants, b) their ethnic background, c) statutory and residential status, d) living qualities of used spaces, and e) current interior amenities brought to light the contextual conditions of social compression. Each interior demonstrated sharing, appropriation, adaptation, and co-habitation to facilitate a means of survival.

Using architecture as mere spatial skeletons, families made use of the interiors to facilitate the sharing of household possessions and living spaces. Hong Kong nationals and Chinese immigrants, co-habituate apartments that were meant for single occupancy sometimes at triple the occupancy rates. Larger apartments were further subdivided to accommodate extended family, sometimes four to five additional members at a time. As an additional source of income, external tenants were taken in to share apartments. Shared kitchens and bathrooms with non-family members caused a hostel type of environment, with make-shift sleeping quarters or bunk beds converting living rooms into sleeping spaces. What could not fit inside each dwelling had to be placed outside. Corridors and hallways were appropriated to become storage, religious spaces, or gathering spaces. Comparable to the subdivisions of existing apartments, rentable rooftop areas provided additional living spaces.

Landlords capitalised on this, and used the spaces that technically fall under "illegal structures", in order to generate additional income. Twenty-one of the thirty inhabitants expressed a fear of the powers that landlords hold, as they pay higher rental rates per square foot than elsewhere. In extreme cases, with the lack of affordable accommodation scripted into planning directives, the interiors become a de facto density model that transforms single occupancies into high density living compartments. In such cases apartments operated as hostels, or as spaces where coffin or cage homes (Tsoi op.cit.; Stackle 2017) established new social typologies as redress. Co-habitation in these types of interiors, between ten and thirty cage homes per apartment, marked another social extreme, doubling up on the functionality of each space and use. Apart from sharing a basic bathroom and small kitchen, the spaces were stripped bare to allow for the maximum number of "cages" possible, which forced people to share each

side of their "home" with another occupant (ibid.). Although well known to Hong Kong dwellers, the mere existence of the cage homes remains a harsh reminder of the failures of planning in twenty-first century cities and the inability to strategise the city in a manner in which the social is imprinted into planning models. Moreover, they remain tell-tale reminders of an econometric model that drives planning, trickles downwards, infuses cities, neighbourhoods, city blocks, and architectural typologies, and eventually produces isolated and cramped dwelling typologies.

Conclusions

Overall, Hong Kong's social-spatial dilemma presents itself as one that has fallen victim to a spatially competitive model, that over time has disempowered dwellers' ownership within its own territorial model. One key aspect summarise these conclusions here, which draws on the applicability of old frameworks for new problems. Naturally, socially derived planning frameworks of the twentieth century remain ineffective in addressing social or spatial challenges characteristical of twenty-first century urbanisation. The lesson to be drawn from the argument here may be one that calls for the spatial disciplines to re-examine the urban *through* the social, first and foremost. The challenges placed on the planning systems of being both centrifugal and centripetal in alignment, calls for the re-examination as to how old models find new applications in contemporary terms. This is further in support of planning to mechanise instruments as a dynamic process of planning and the instruments necessary for social-spatial projections.

Planning models, as such, provide necessary links between the specific and general, the regional and the local, and between the social and the spatial in their visions of possibilities. They form a much required component to strategise, in both the short and long term, irrespective of scale. Concomitantly, such projections represent accountability, and highlight the duality as well as the pros and cons associated with each system of approach. Yet, lacking such projections or visions of how these ideas can be made spatial, other forces dominate this process of development. Capitalism, financial competitiveness, spatial compression, and social immobility run their natural and usual detrimental course.

Irrespective of Hong Kong's social future, or whether it commences its social strategies from the models of Burgess, Hoyt, or Mann, the SAR is required to take stock of its social if it deems its "two-systems-one-country" spatial incentive to extend beyond 2047; a social-spatial framework for the SAR territory, and beyond, based on a lived approach to planning and through its social dimension.

Acknowledgements

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Notes

1. Pinilla Castro's thesis defines two main aspects of planning. The first refers to regulatory or planned forms of spatial strategizing and its specific instrument of management, control, and its focus to produce exact projections that define as well as predict final outcomes. 'Emergent attitudes', in direct opposition to planned approach, refer to how placemaking is not pre-determined by experts, nor at any of the national or municipal planning levels. They emerge as a by-product, out of a collection of public or private actions that shape urban landscapes. (2008, pp ii).

2. The original proposal was made in a paper entitled "The Nature of Cities".

3. A later model proposed by Vance (1964) elaborates on the formal characteristics of urban centre emerging in an open territory, wherein a variety of commercial centres and business districts are located. Vance's model remains an extension to Ullman and Harris' model yet with a more informative take on urban form, process and culture. (cf. Vance 1964).

4. The Isolated State model deemed one's own actual position within the city significant. Important city functions, better housing conditions and most activities of public life 'centred' on these settlement points, associated with production.

5. Central Places Theory operates on the premise of equal distribution of functions, distances of formations and static locations to each settlement. As theory, it relies heavily on the distinctions between centre and peripheral geographies, and less on the social conditions of cities or urbanization as process in its own right. The method imposes a hierarchical order upon certain important settlements and their field of influence. A "centre-to-place" relationship is graphically depicted as interlocked hexagons.

6. A whole section in the publication by Somer is dedicated to how the *Congrès International d'Architecture Moderne* or CIAM directed planning and social strategy during its 4th Congress. The chairperson of the time, the Dutch planner Cornelis Van Eesteren, advocated the notion of the "functional city" in terms of planning analysis and design, laying importance on housing, work, leisure, and traffic. See Somer, et. al, 2007. Also see Bruyns (2011, 43) for a broader discussion on its implications for urban form.

7. See: Le Corbusier's text on "A Contemporary City" in Le Gates and Stout, 1996, 936.

8. The Bijlmer area was seen as Amsterdam's test case for applying modern planning ideology to an actual site. Conceived by Van Eesteren, the Bijlmer, became a key satellite city, extending Amsterdam beyond its 17th century confines, adding to the Berlage's plan for Amsterdam, dated 1914 (Somer, op. cit.).

9. The Special Administrative Region is the territorial autonomy of Hong Kong, awarded by The People's Republic of China (PRC) to the territory. As former British colony, the SAR is a part of the PRC yet with different administrative and legislative powers.

10. Yeah and Lin both address the transformation of Hong Kong's manufacturing nexus within the Pearl River Delta. Since the 1980s, and China's relaxation of trade policies, Hong Kong has experienced a steady deindustrialisation process. Known for its manufacturing services, Hong Kong's manufacturers, systematically seeped back into the mainland for reasons of affordable labour and materials. In this light, Hong Kong had to readapt its economic premise to a service economy. To this effect, the dependency on land-based revenue systems, where property is capitalised upon, has as an effect, implicated as a spatial question to Hong Kong's social future in as much as its affordability and access of adequate housing for all of its citizens.

11. For a full description of Statutory plans and Outline Zoning Plans see Schedules of Plans, Planning Department, the Government of the Special Administrative Region of Hong Kong.

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Bio

Dr. ir. **Gerhard Bruyns** is an architect and urbanist. He is Assistant Professor of Environment and Interior Design, School of Design at the Hong Kong Polytechnic University, Hong Kong. His research deals with the aspects of spatial forms and how this impacts both the formal expression of the city and societal conditions that are compressed into an urban landscape driven by speculation and excess. He has published on design strategies for neoliberal landscapes, exploring what this means for concepts as the 'square foot society' and models of urban dwelling and planning. In 2012 he co-edited *African Perspectives [South] Africa. City, Society, Space, Literature and Architecture* (010 Publishers: Rotterdam) part of the Delft School of Design Publication Series. In 2015 he was co-editor of Issue #16 of Footprint: Delft Architecture Theory Journal entitled: *Introduction: Commoning as Differentiated Publicness* (2015, Jap Sam Books).

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Figure 6 (this page): The effects of the 'model' versus the 'lived'. Compressed urban dwellings as a consequence of spatial planning.Source: *Author.*

004

Techno-Art-Activism; the Implicit Technology of Design Social

Kacey Wong

74—89

This photo essay comments on the influence of art-activism in the process of the 'social'. Moving away from the conventionality of social approach to betterment, the approach follows an artistic take, amalgamating new forms of media with the processes of design and art.

#Techno-Activism

#Mapping Techniques

#Art-Activism

#Technology

#Design Social

Across space and time

Historically speaking, the use of the loud speakerphone has been the primary *technology* to address crowds. In its most basic form, in what we see today, the co-dependency between the loudspeaker and physical space remains interlocked, in as much as the square or stadium as a place is deemed as essential to the message as the technology which carries a message across a vast crowd. At the architectural scale, the balcony remains a typological space of message and influence, where the great orators of history proclaimed their dictatorial or totalitarian position to large audiences (Koolhaas 2015). In the urban sense, this reliance, as observed in the various forms of urban disobedience and civil contestations, remains a dual dependency on the social technology and the spaces afforded to each society.

Contemporary activism, as a way to influence social groups, remains reliant on other forms of technologies. In this, communication has become a dual process. The dissemination of a message is just as necessary as the diffusion of ideas. Hong Kong's Umbrella Movement (2014), and the Arab Spring Movement in Libya, Tunisia, Syria, Yemen and Egypt (2011) and Turkey (2013) attest to Hanna Bäck *et al.*'s (2006) emphasis on collective versus selective incitements and the participatory call within crowds.

The promotion of digital technologies and their social media platforms helped to eradicate both the charismatic leader and the loudspeaker. The barrage of slogans by one individual across space has been miniaturized into an individual purpose through a hand-held, mobile device. In contemporary practice that person, activist, or opinion-maker, remains fluid and non-descript as long as they have access to a digital platform and elements that link into these platforms. The speed, intensity, and flow of information traffic places new demands on how messages are broadcast to each instance of an occurrence. In other words, it no longer is an elementary dependency on an individual being at the right place at the right time, but rather those who have access to the necessary platforms to carry their voices further.

Social media platforms conform to Marichal's concept of *Micro-activism* (Marichal 2013), and are crucial to contemporary causes – Facebook in particular. Without the need to recreate a new platform or seek alternative ways of voicing opinion, Facebook, Twitter, and the visually-driven Instagram remain some of the most effective platforms of contestation (Cammaerts 2015). Facebook's effectiveness is evidenced in its ability to reach thousands of users and generate 600 responses for democratic incentives, which then become the instantaneous events that were previously impossible in history.[1] This is compounded when users share social issues through a platform, which further promotes real-time technology that facilitates activism or what one could call "*techno-activism*".

Furthermore, technology-activism has become a way of life and a condition of contemporary living. The constant scrutiny of users who *check-in*, and monitor the self and the allowances they make for others to observe what activities one is part of, remains an unavoidable consequence to activism on a daily basis. National agencies' continued technological development, which aims to detect and eventually predict demographics (Cesare et al. 2017) related to gender, age, and some more personal traits, such as facial recognition, run the risk of social media platforms becoming tools to trace and identify so-called perpetrators of other offences. What was meant to open the diversity of voices and options has effectively become a double-edged sword, and the de-facto state capture of *civic* agency.


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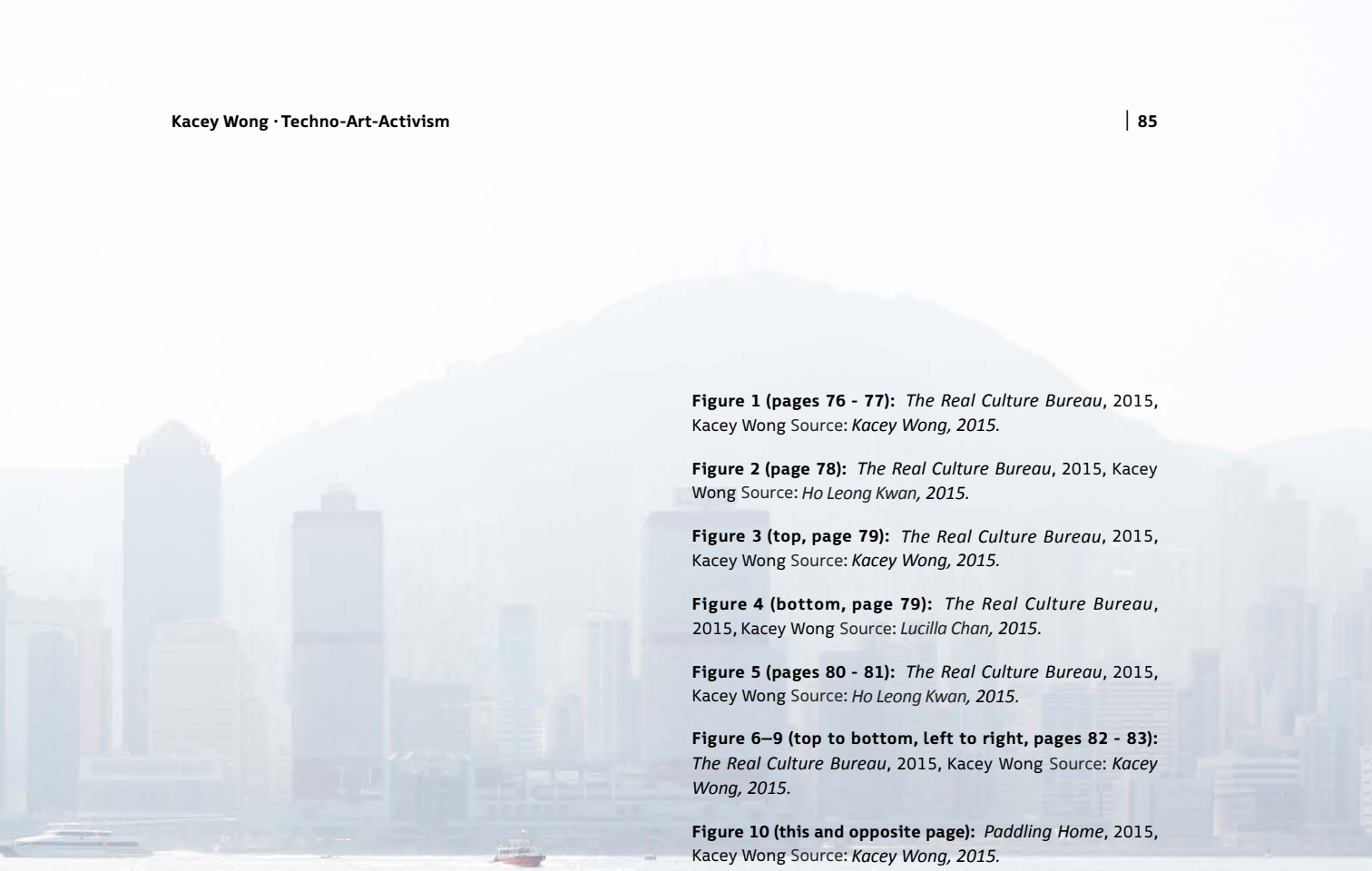

Figure 1 (pages 76 - 77): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Kacey Wong, 2015.*

Figure 2 (page 78): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Ho Leong Kwan, 2015.*

Figure 3 (top, page 79): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Kacey Wong, 2015.*

Figure 4 (bottom, page 79): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Lucilla Chan, 2015.*

Figure 5 (pages 80 - 81): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Ho Leong Kwan, 2015.*

Figure 6–9 (top to bottom, left to right, pages 82 - 83): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Kacey Wong, 2015.*

Figure 10 (this and opposite page): *Paddling Home*, 2015, Kacey Wong Source: *Kacey Wong, 2015.*

Figure 11 (page 89): *The Real Culture Bureau*, 2015, Kacey Wong Source: *Kacey Wong, 2015.*

Protest art, design and the social

Although instant transmissions, or to broadcast specific creative endeavours, are effective, they can never fully replace rallies though human presence. The presence of art or materialised objects in a space remains a powerful mechanism to draw in users and produce civic energy. For activist-artists human presence remains a vital component to the message, the protest, and the kind of spectator audience. In comparison, a rally fought from behind a mobile phone screen or a television requires different modes of application, or what could be termed a *sideline event*. In comparison, the in-situ effects of rallies, which are driven by physical human movement, voices, and the energy of a speaker, deliver another dynamic through direct engagement with one another.

Further, this represents a return to the *elemental* form of protest, or the primordial desire to avoid technology at all costs. The production of physical objects deliberately sidelines a possible *state capture* or of them being rendered inaccessible by technological means. The production of art as activism, specifically in materials obtainable from stationary and hardware outlets, highlights the human dimension of this type of activism, the art, and of the message.

One such example is found in *Paddling Home* (2010). As a first example of art-activism and the use of an anti-technological approach, the structure of *Padding Home* is a four-foot by four-foot house that is also a sea-floating structure. This tiny building resembles a typical residential apartment block completed with features such as bay windows, an air conditioning unit, and stainless-steel gates. Like a paddling boat, two paddling oars push out from the two walls, which allows a person to slowly paddle the house away. The concept of this project came from the extremely pervasive living situation across Hong Kong, where people can only afford a tiny apartment, yet spend their entire lifetime repaying the mortgage due to the high cost of housing compared to their low wages. Real estate developers only follow one successful formula, which compresses housing functions that are marketed to people as grandeur and luxury in order to maximize profit. *Paddling Home* is about mobility and compact living, freedom, and the search for a better urban place. It poses an alternative way to live in the city. The image of a helpless little house paddling away in a vast, dangerous ocean towards the infinite shoreline is similar to using twenty to thirty year's time to repay a huge mortgage loan, which remains both a dangerous and helpless cause.[2]

Within the praxis of artist-activism, *The Cultural Bureau* is a commentary on the issues that pertain to policy and its bearing on culture. In 2012, the Hong Kong Government announced the intent to establish a Cultural Bureau dedicated to overlook all art, museum, and cultural matters for the Special Administrative Region. At the time, both artists and cultural workers seemed frayed by the appointment of officials with strong ideological and possibly Communist ties. Moreover, the concern was based on how, and in what way, cultural re-pression may be instrumentalised as a tool for cultural repression from outside of Hong Kong.

The *Real Cultural Bureau* was conceived as a non-technological response to culture and propaganda. The work was inspired by the Armoured Personnel Carrier (APC) of the People's Liberation Army (PLA). As a military vehicle, it is a much-used image in both parades, propaganda, and forms of social control. From an artistic perspective, this can be interpreted as both a symbol of military power and a vehicle to suppress freedom by deadly force. In response, I built a pink cardboard version of an APC on top of a trolley. Individuals who pushed the cart from the inside powered its movability. At the top of the APC, the artists represented a Communist official in an official uniform wearing a Chinese tunic suit, Ray Ban sunglasses, and

red pins. Thus, they portrayed the fictitious role of the 'Real Cultural Bureau Director'. With fake printed money, the official scolded politicians and protestors, and attempted to bribe officials into submission for financial gains and military might.

In terms of design-social, the use of materials, colour, and way of representing the specific means, whether monetary values through mimicry, or in as such the use of fake currency in combination with historical devices as loudspeakers, they each navigate a thin line between a true to life reality and the parody of political manoeuvrability. In terms of the social, this overall remains an embodied, anti-technological activism, functioning as commentary that is deeply embedded in not only the uncertainty for the city, neighbourhood, or the territory but one that questions the social at large.

Notes

1. See: Kacey Wong's Facebook account and the Umbrella Movement design competition reaching 5000 users and receiving 600 responses to the online call in 2014. Facebook was chosen for the reason that it provided a familiar platform that was already frequently used by a specific target group. Also see, *HK protests over missing booksellers*, The Financial Times, World Business Newspaper, Asia, 11 January 2016: 1 – 2.

2. See: http://www.kaceywong.com.

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Bio

Dr. Kacey Wong's experimental art projects investigate the relationship between men, their social and political environment, and living space. He uses diverse methodologies including sculpture, installation, photography, performance, and social interventions. He was the winner of Best Artist Award in 2010, Rising Artist Award and Outstanding Arts Education Award given by the Hong Kong Arts Development Council in 2003. He commenced his *Drift City* photo series in 2000, where he dressed up like a skyscraper and travelled from city to city in search for utopia. He later published the photo book *Drift City 10 Years* (2010). Hong Kong public museums and private collectors have collected his mobile home tricycle project, entitled *Wandering Home*, his *Drift City* photo series, and *Sleepwalker* series. Dr Wong's floating house, entitled *Paddling Home,* floated in Victoria Harbour and was the star feature in 2010's Hong Kong & Shenzhen Bi-City Biennale of Urbanism / Architecture exhibition.

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005

Drawing the Impossible – the Role of Architectural Drawing in the Production of Meaning in Social Space

Luke Tipene

90–107

This pictorial essay reflects on a unique category of architectural drawing that depicts spaces that *cannot* physically exist. It suggests that this specific mode of drawing plays a significant role in the production of meaning in social space through depicting ephemeral characteristics of our social relations.

This argument is discussed in relation to Michel Foucault's theoretical allegory of the heterotopic mirror, and illustrated through accompanying images of the drawing project *The Virtual Relations* (2009). This project used the methodology of "drawing the impossible" with Henri Lefebvre's theory for the production of space to explore ephemeral conditions of social interaction in the domestic interior as five spatial descriptions.

#Architectural Drawing

#Heterotopia

#Social Space

#Piranesi

#Lerup

Drawing and thinking

Architectural drawing generally operates in one of two modes: either as a tool to represent what *does* exist, or as a design device to demonstrate what *can* exist. However, there is a third mode of drawing that transgresses what *does* and what *can* exist, to depict that which *cannot*. Such drawings are rare and generally seen as adjacent to design practice, though when considered in relation to Michel Foucault's theoretical allegory of the *heterotopic mirror*, they demonstrate a unique affordance of the medium of drawing to inform our understanding of social space. By depicting spaces that are wilfully unbuildable, such drawings sustain and reflect ephemeral characteristics of our space of relations, enabling viewers to address their own understanding of social space through participating in the production of meaning in the image. The result of which are drawings that deconstruct formal aesthetics to create a spatial discourse on "*states of being* rather than on the physical reality of use" (Lerup 1987, 9).

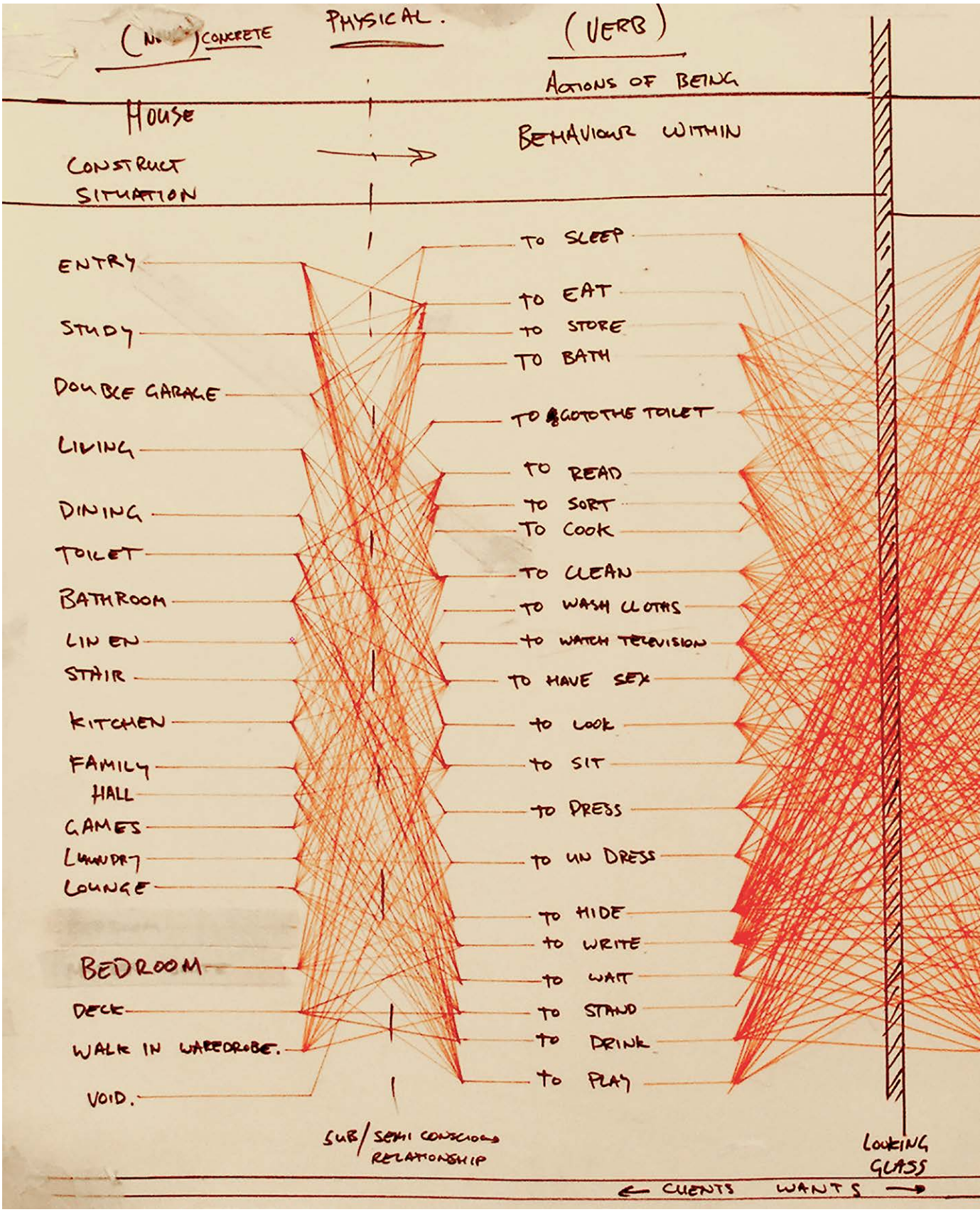
Perhaps the most identifiable example of this mode of drawing is the *Le Carceri d'invenzione* [*Imaginary Prisons*] (1745-61) portfolio by the architect Giovanni Battista Piranesi. These difficult and bleak drawings go beyond simple depictions of imaginary architectural space to include elements of optical illusion. Such elements make these depictions unbuildable outside the artifice of drawing by including paradoxical forms, parallel scales, and the deliberate obscuration of linear perspective. Such elements deny the plausible consideration of these drawings as depictions of real space. Instead they confront us as a type of unknowable space made from a "tangle of things that questions one another's meaning" (Tafuri 1987, 50).

A more recent example of this mode of drawing is Lars Lerup's *Love/House* (1987). This episodic depiction of the fate of two lovers demonstrates unbuildable space through the metamorphosis of built form across twenty-six drawings that disregard physical limitations such as gravity and structural logic (Lerup 1987, 59-80).[1] Like Piranesi's prisons, Lerup's *Love/House* removes the architectural drawing from an analogous relationship to buildable space. The results are an assemblage of visual approximations of *Love/House* that rearrange, add or omit spatial elements based on the social interactions between its clients, the lovers.

These uniquely unbuildable depictions of space by Piranesi and Lerup correlate with F oucault's theoretical allegory of the heterotopic mirror discussed in his published lecture, *Of Other Spaces* (1986).[2] Foucault describes heterotopias as places that are "outside of all places, even though it may be possible to indicate their location in reality" (Foucault 1986, 24). Like the drawings, Foucault explains heterotopias as consisting of a duality that configures the *unreal* with the *locatable*; a process that he describes in detail through an allegory of his interaction with a mirror (1986, 24).

Foucault begins by describing the characteristics of the mirror that correlate with heterotopia's other, *utopia*. He suggests that the space of reflection within the mirror is like a utopia in that it is "a placeless place" (1986, 24). In a similar way, he describes utopias as "fundamentally unreal spaces" (1986, 24) because they are representations of "society itself in a perfected form, or else society turned upside down" (1986, 24). This description of utopias as only perfect (*eu-topian*) or the inverse (*dystopian*) demonstrates the limitations of such idealisations; like the space of reflection in the mirror, utopias are unreal and bare an inevitable distance to reality.

James J. Gibson discusses the same effect of idealised representation in drawing. He suggests drawings that attempt to perfectly depict the observable world prevent any reliable impression of reality (Gibson 1978, 231). He describes this as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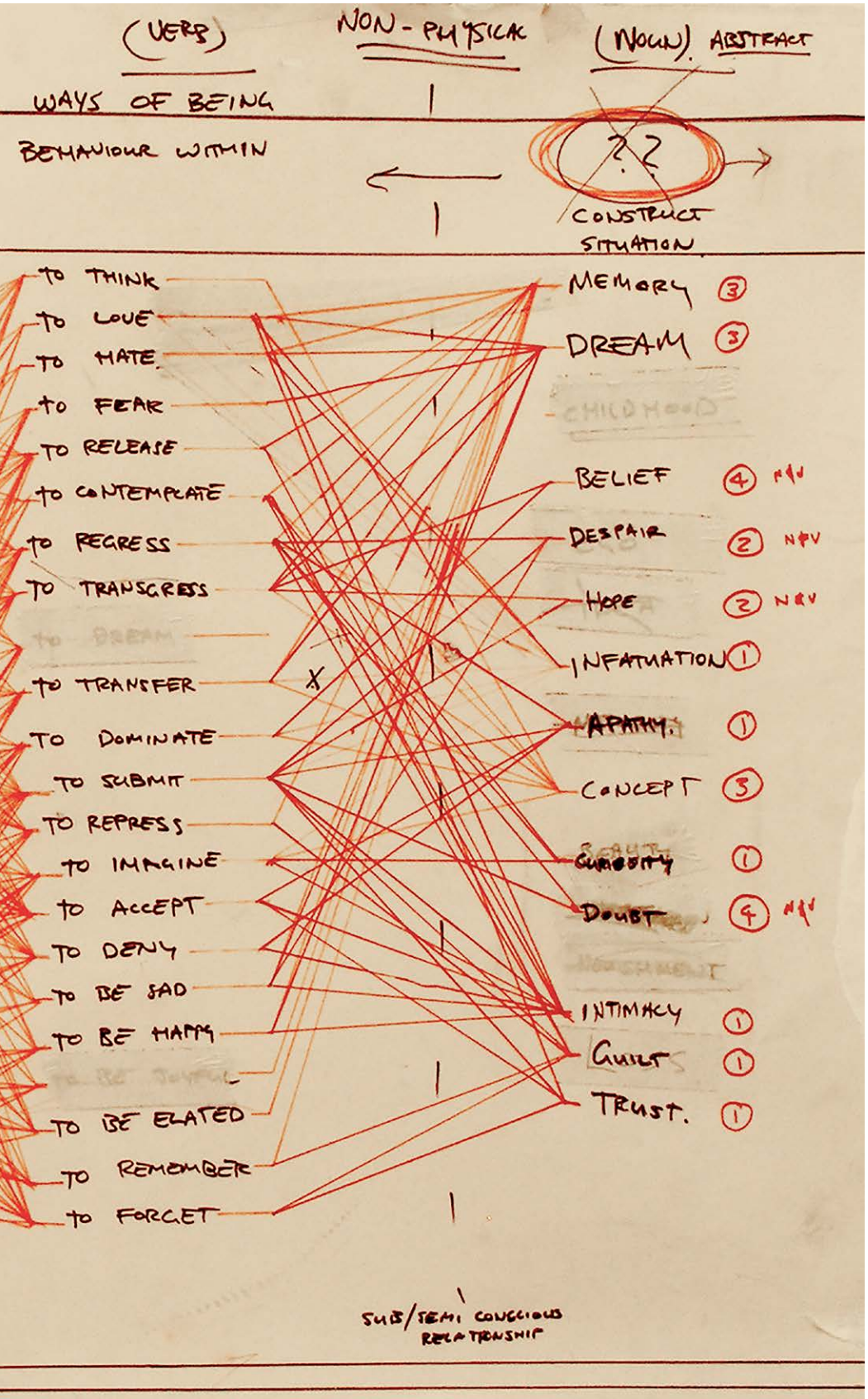
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TO TRANSFER
TO DOMINATE
TO SUBMIT
TO REPRESS
TO IMAGINE
TO ACCEPT
TO DENY
TO BE SAD
TO BE HAPPY
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TO REMEMBER
TO FORGET
MEMORY 3
DREAM 3
BELIEF 4 N+V
DESPAIR 2 N+V
HOPE 2 N+V
INFATUATION 1
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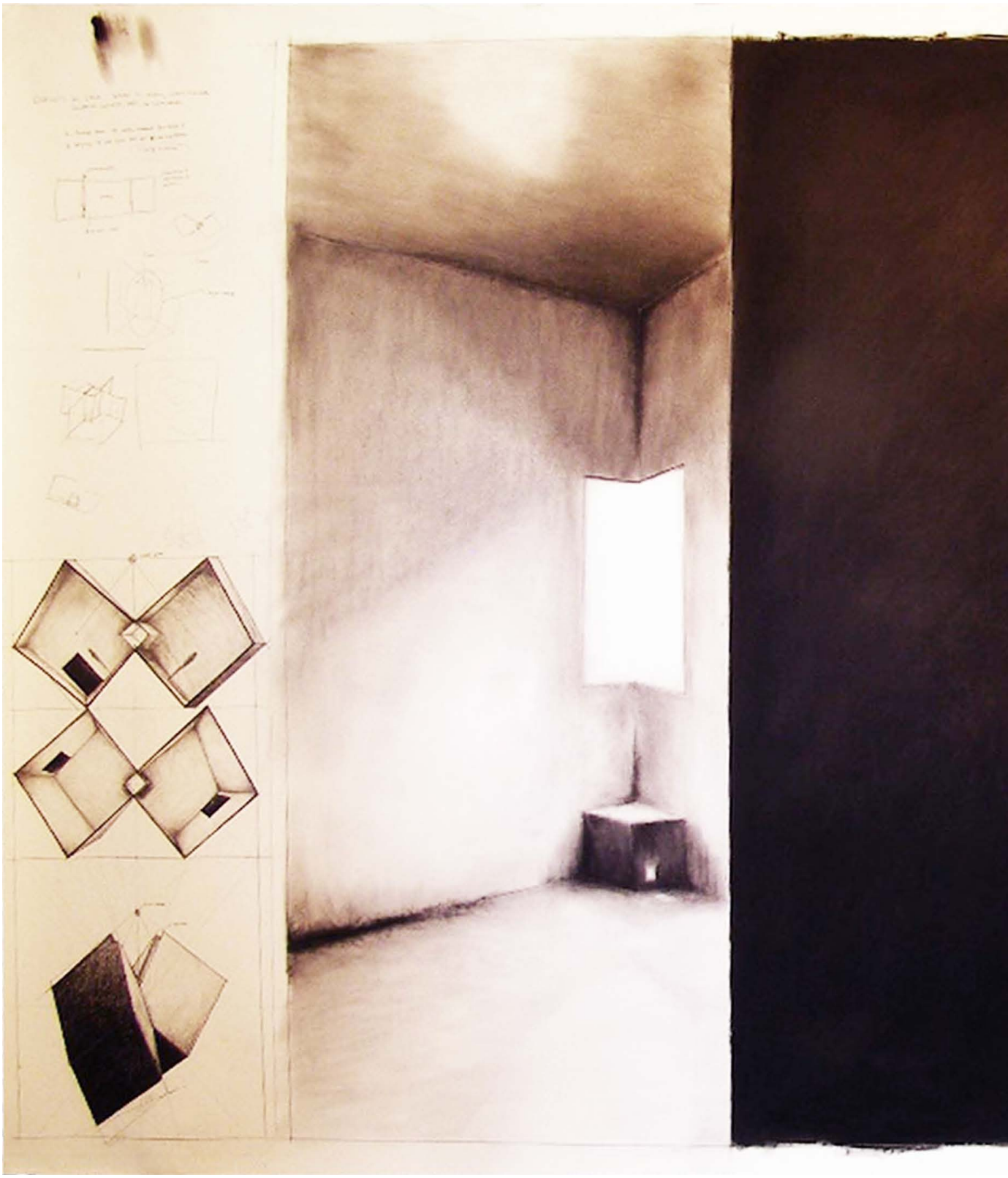

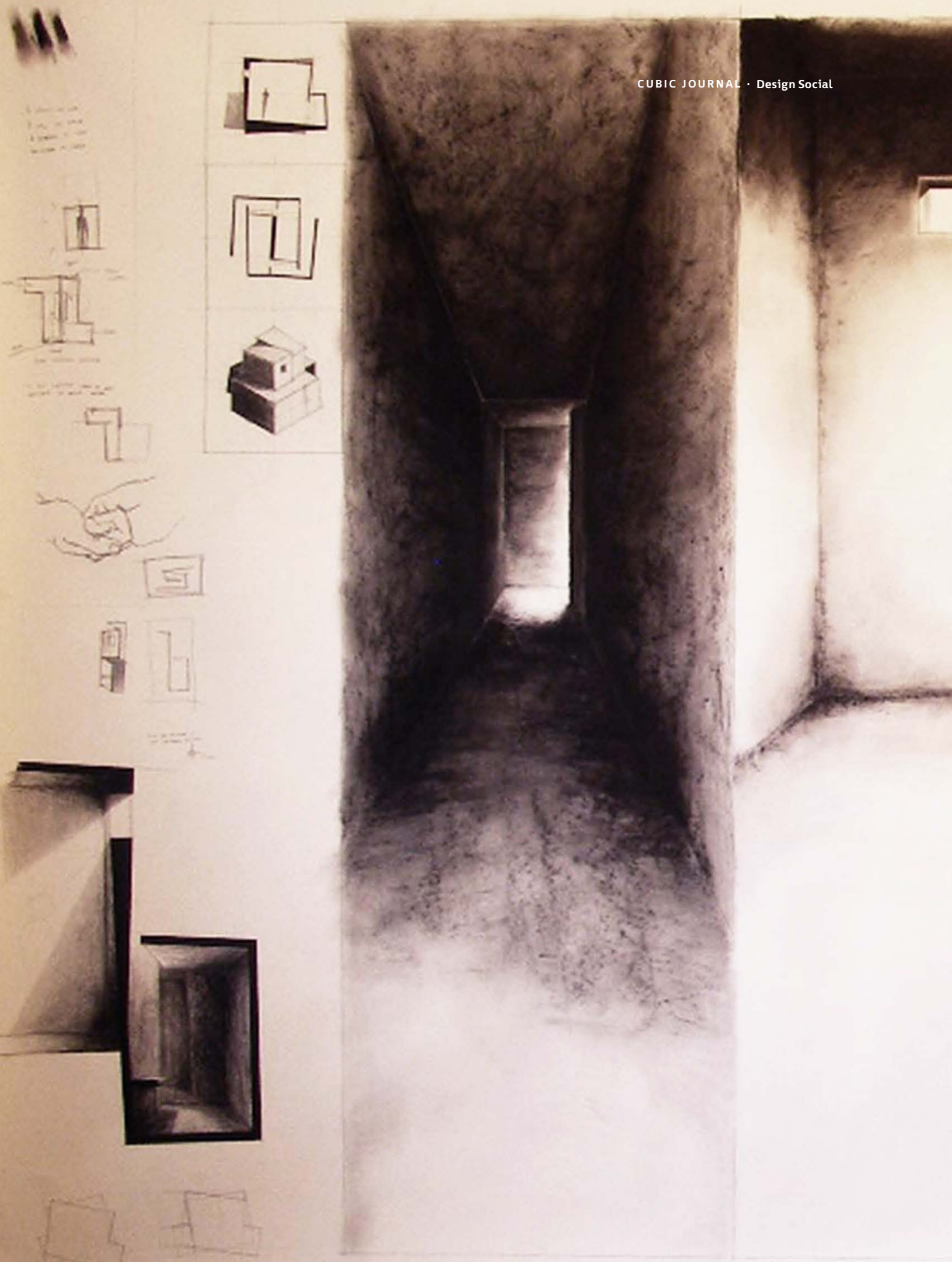

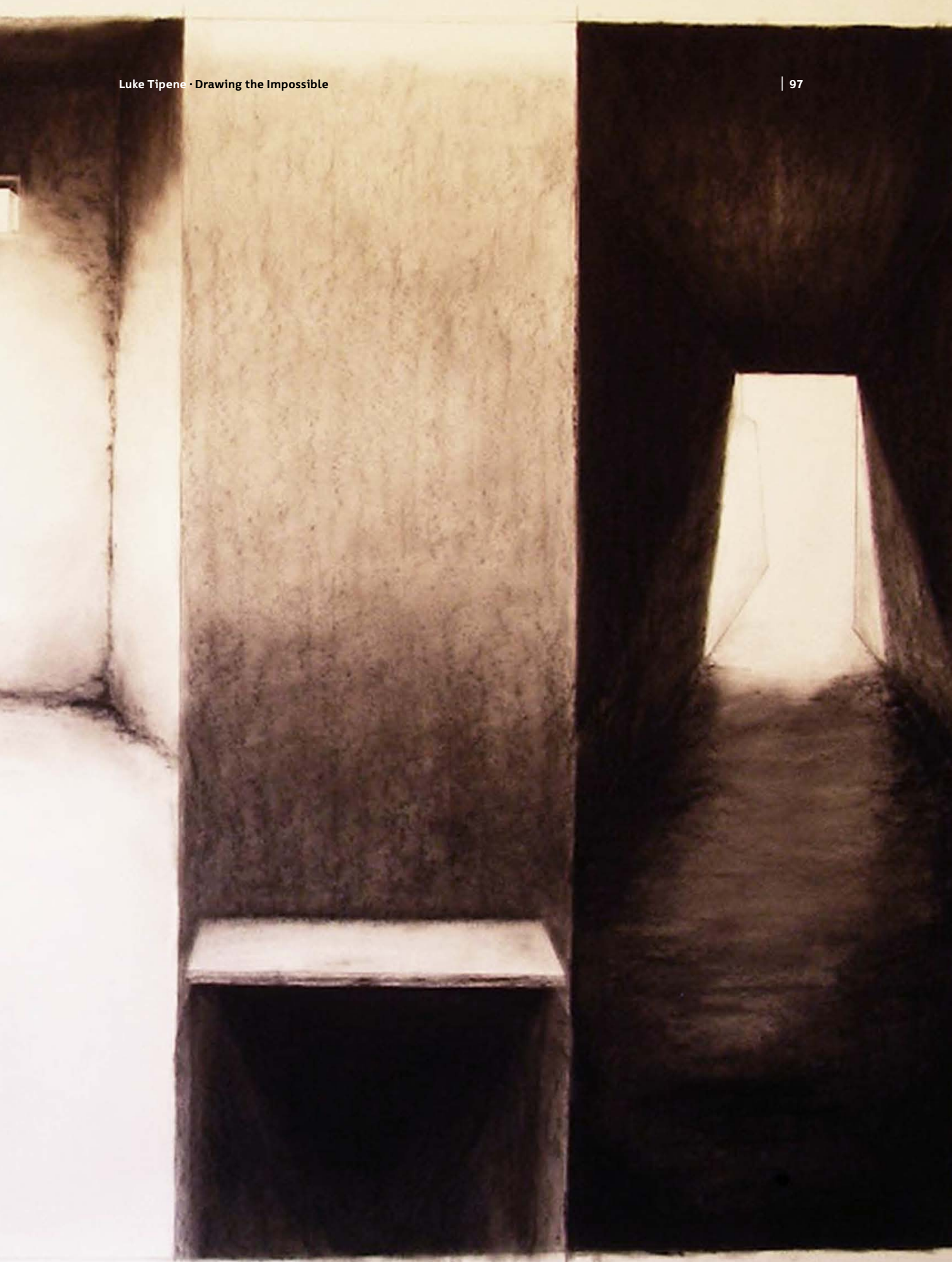

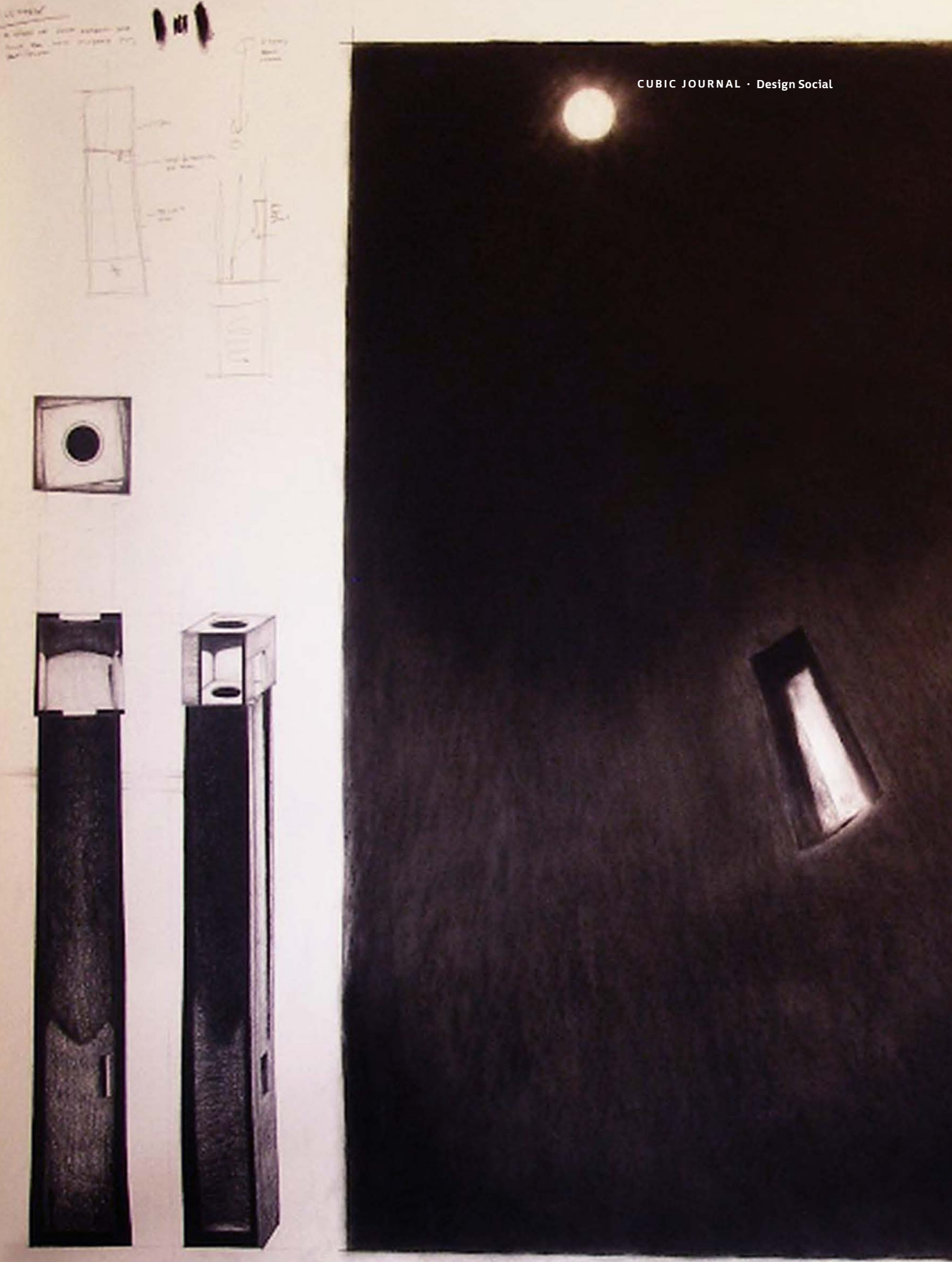

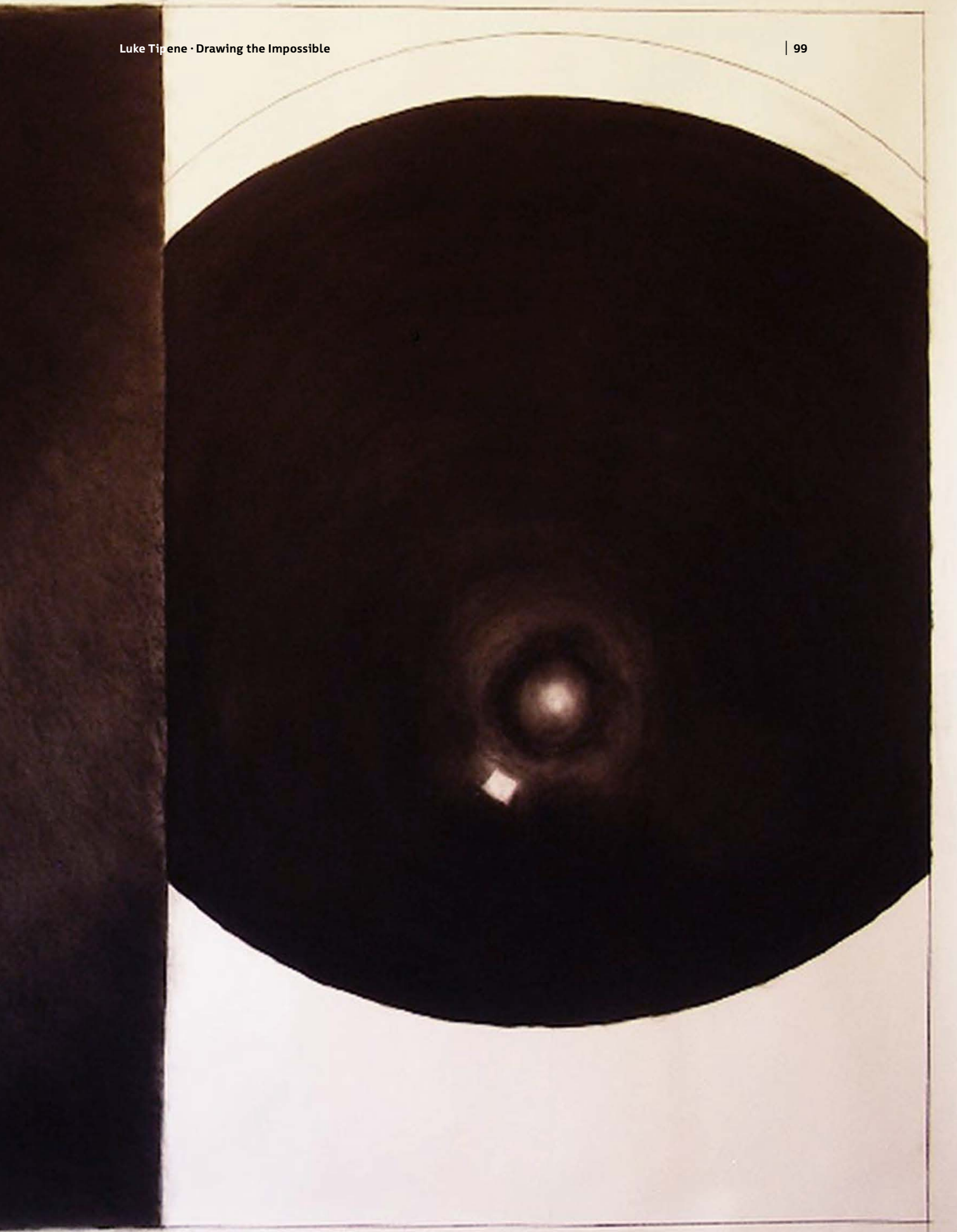

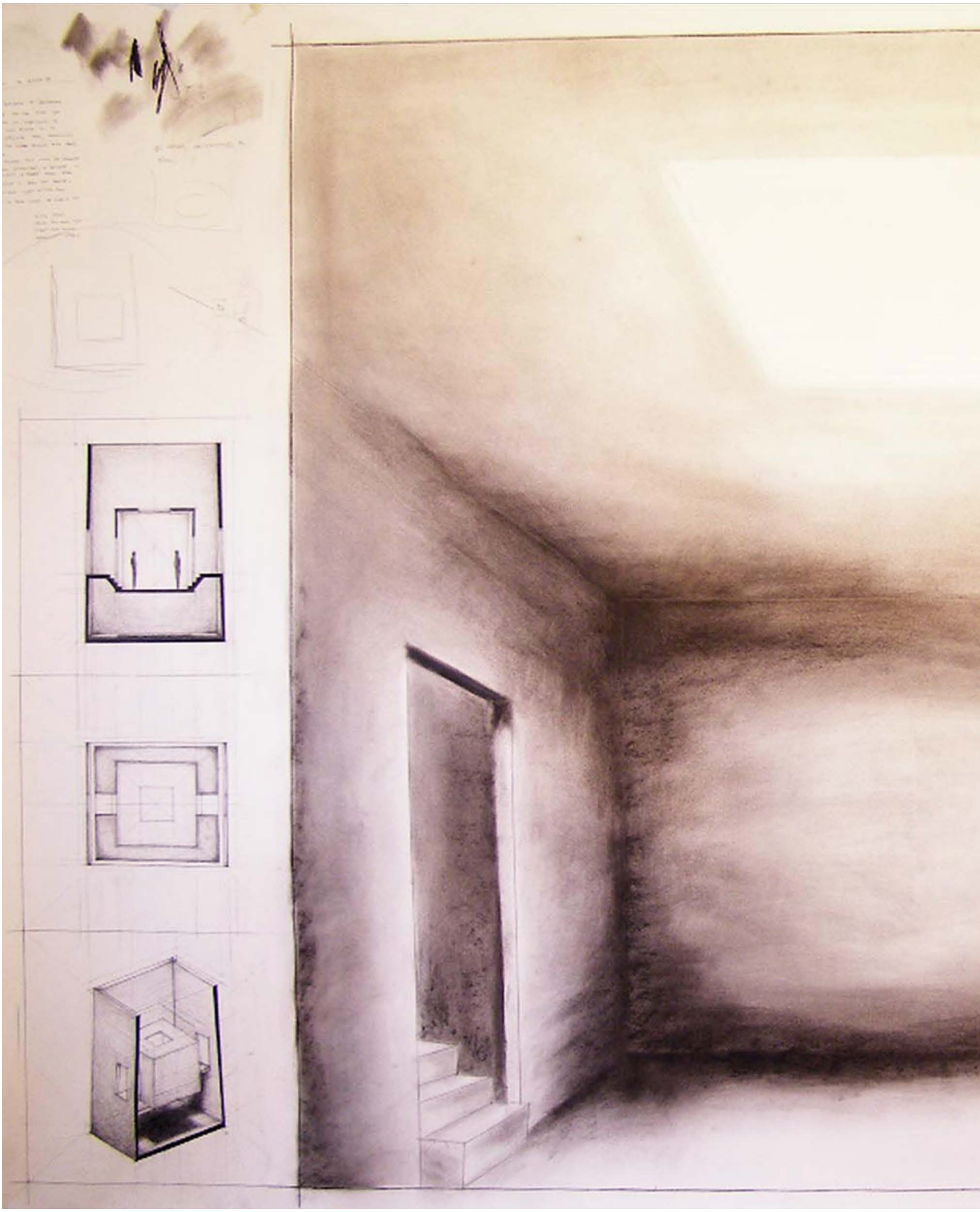

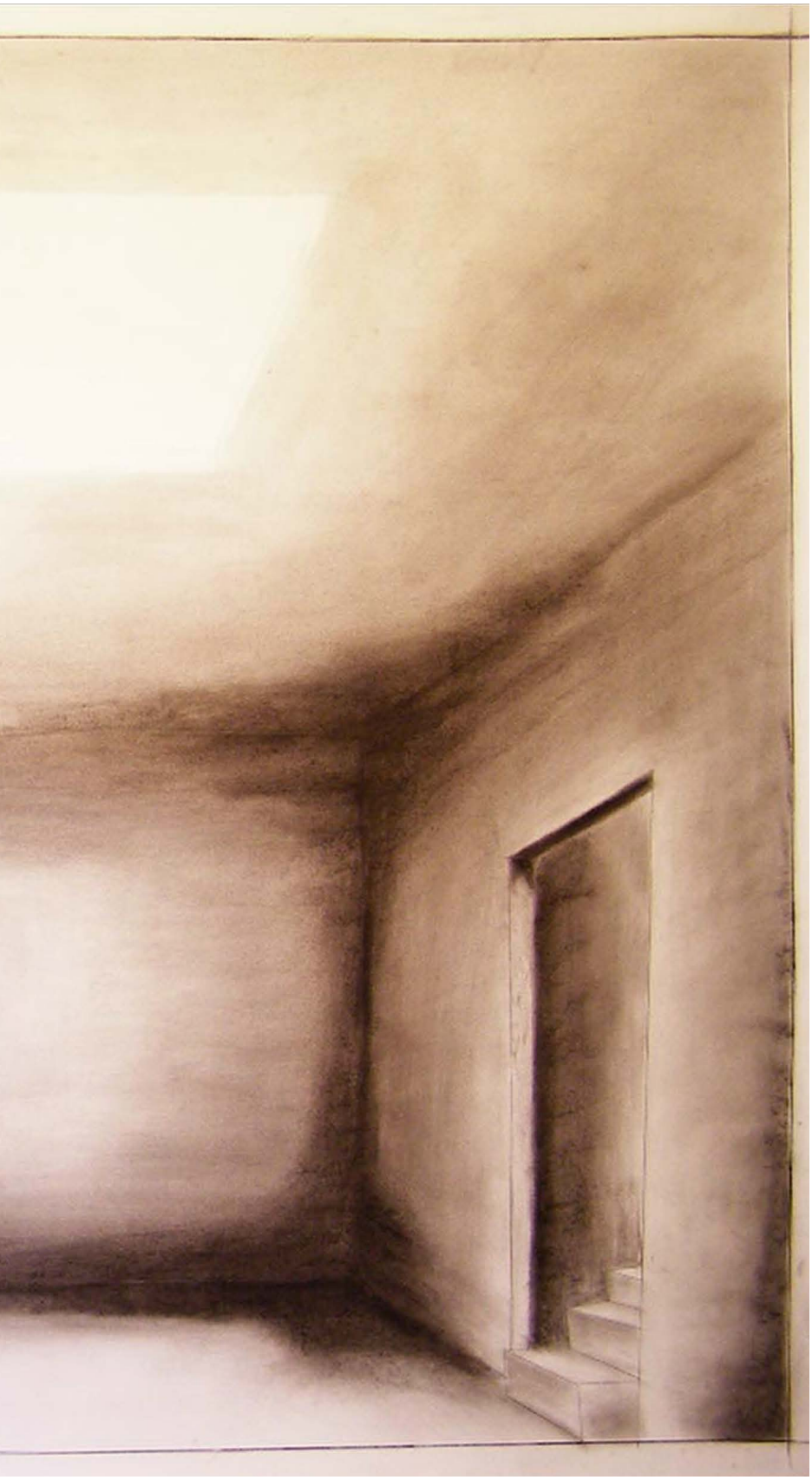

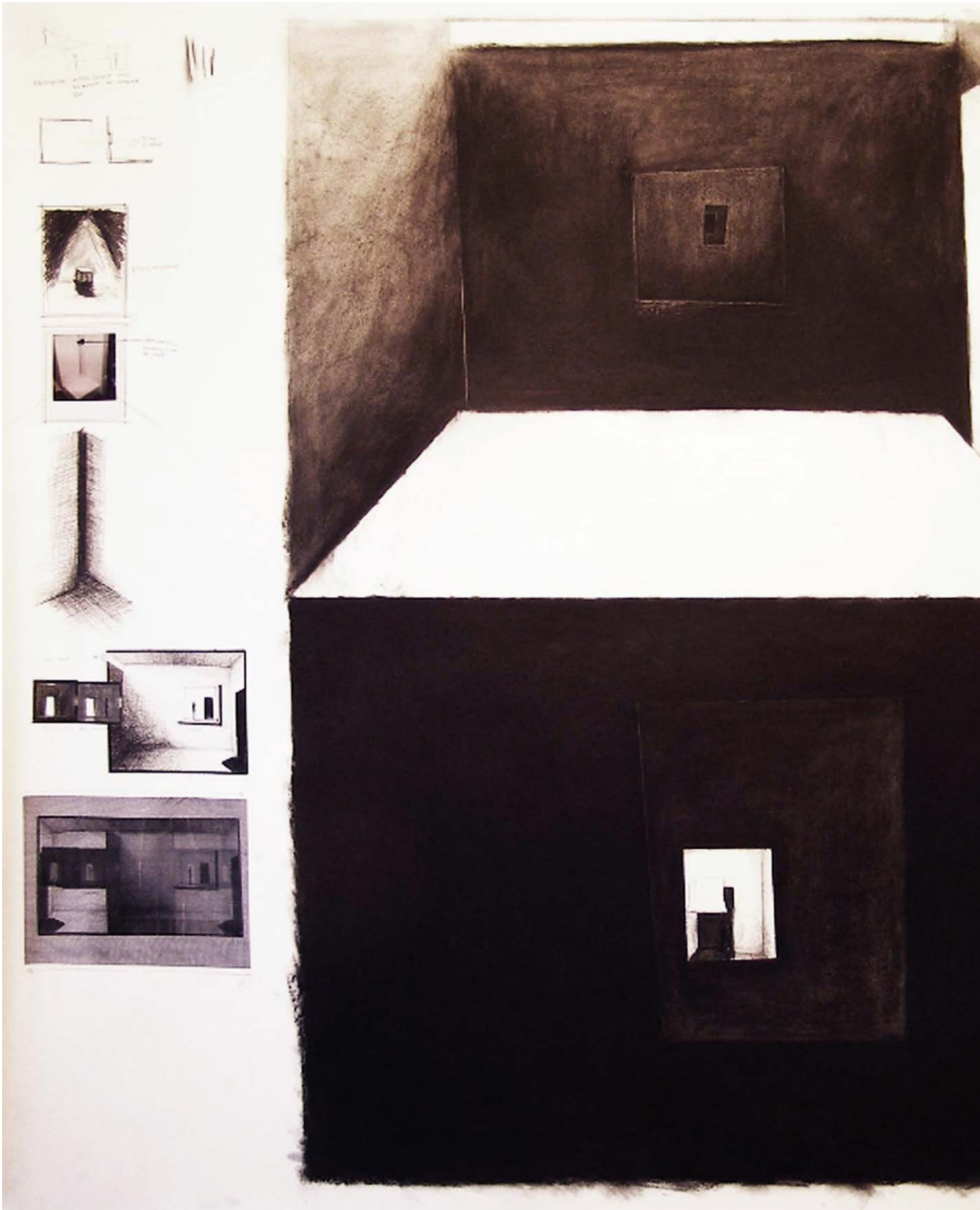

Figure 1 (page 92 - 93): Mapping Social Interactions from the Domestic Interior (2009). Ink on paper (originally 600 x 800mm). Source: *Luke Tipene.*

Figure 2 (pages 94 - 95): Curiosity (2009) - A space where each inhabitant perceives the other through a third space that neither can enter. Soot and graphite on paper (originally 1600 x 2800mm). Source: *Luke Tipene.*

Figure 3 (pages 96 -97): Intimacy - A space for witnessing the other inhabitant's solitude. Soot and graphite on paper (originally 1600 x 3000mm). Source: *Luke Tipene.*

Figure 4 (pages 98 -99): Guilt - Enables inescapable hegemonic perception of one inhabitant over the other. Soot and graphite on paper (originally 1600 x 2800mm). Source: *Luke Tipene.*

Figure 5 (pages 100 -101): Trust - The only space where each inhabitant can meet freely. Soot and graphite on paper (originally 1600 x 2500mm). Source: *Luke Tipene.*

Figure 6 (this and opposite page): Infatuation - A space that enables one inhabitant to view oneself covertly viewing the other. Soot and graphite on paper (originally 1600 x 1200mm). Source: *Luke Tipene.*

the fallacy of representation in which drawings occlude our experience of reality by reducing it to linear perspective (1978, 231-2), or a process that keeps what is real at a distance from what is seen. For Gibson, like Foucault's definition of utopias, idealised representations forever remain unreal because they do not engage in the meaning of real things.

Moving from his definition of the *utopia* to his conceptualisation of the *heterotopia,* Foucault returns to the allegory of the mirror. He states that in addition to its unreal space of reflection, the mirror is also a real site that "does exist in reality" (Foucault 1986, 24). In the same manner, Foucault suggests heterotopias are "real places […] that do exist"[3] (1986, 24), resulting in their ability to affect us through exerting "a sort of counteraction on the position that I occupy" (1986, 24). Importantly, he suggests that for this *counteractive* mechanism to affect us, like the mirror, heterotopias must be simultaneously experienced as both real entities and unreal reflections (1986, 24). For Foucault, this non-hegemonic interface of these two depictions is central to the concept and agency of the heterotopia.

Returning to Gibson, he parallels this duality of the heterotopia in his description of how we experience drawings (Gibson 1978, 231). He suggests that like Foucault's mirror, drawings are simultaneously experienced as both "surface and scene," or image and space[4] (1978, 231). The result of which is a dual perception when viewing drawings as real images that affect us through counteraction and as unreal spaces of reflection that gives the counteraction meaning.

Considering drawings in this way, perfected depictions of the observable world can be described as attempts to favour unreal spaces over real images. The result of which are idealised representations that provide little "counteraction on the position I occupy" (Foucault 1986, 24) because they locate "the observer in a virtual environment" (Gibson 1978, 232). Adversely, drawings that engage in optical illusion and depict unbuildable space break the drawings ability to convincingly enact such perfected representations. They result in drawings that we experience as real images that use counteraction to affect us through reflecting the unreal qualities that make space meaningful.

By depicting purposely unbuildable space, such drawings give agency to real but ephemeral characteristics of our social experience. In the case of Piranesi's work, this results in spatial depictions that are "a systematic criticism of the concept of place" (Tafuri 1987, 27). In the case of Lerup's work, it results in spatial descriptions that "attempt to arrest or disrupt the unspoken and unheard 'family narrative' written in the spaces of the house" (Biln 1995, 40). These drawings become sites to explore the meaning of such unbuildable spatial qualities and question unseen social-spatial practices.

Lerup's drawings suggest how such agency takes hold in our cultural imagination. Prior to his development of the *Love/House*, Lerup defined his approach to design as "interactionist" (Lerup 1977, 19), suggesting that the meaning of architecture is unfinished in its built form and instead is constantly produced through participatory engagement in our social space. His *Love/House* drawings appear to embody the same view. Drawn to articulate a critical reflection on the American domestic interior, these depictions of the relational experience of the lovers leave the house unfinished. Described by John Biln as a "somatic suture" (Biln 1995, 60-65), these metamorphic and unbuildable representations compel the viewer to actively participate in the construction of their meaning. A point articulated by Lerup himself when suggesting that the clients of *Love/House*, the lovers themselves, reflect a particular relational moment that we have all experienced at one point in our lives. (Lerup 1987, 18).

Manfredo Tafuri describes a similar relationship with the unfinished in Piranesi's unbuildable prisons. Paraphrasing May Skeler, he suggests the "disintegration of the coherence of structure" in the drawing results in "the spectator to recompose laboriously the spatial distortions, to reconnect the fragments of a puzzle that proves to be, in the end, unsolvable" (Tafuri 1987, 26). Tafuri appears to describe this interactive process as the central mechanism of Piranesi's work, resulting in "infinite dialectics" (1987, 53), which democratise the production of meaning in the drawing by opening it to "unforeseen possibilities of intervention into the form of the human environment" (1987, 46). The counteractive agency of these drawings to affect our understanding of social space is evident through their significant influence on architecture, art, stage design, cinema, literature and critical theory since its completion in 1761 (Roncato 2007, 6; Tafuri 1987, 39). By remaining unfinished, or even "unfinishable", these drawings provide an inexhaustible site to reflect on the unbuildable qualities of the human condition that make space meaningful.

The ability of this third mode of drawing to participate in dialectics on the meaning of social space is the premise of the drawing portfolio *Virtual Relations* (2009). This project consists of a drawing study of social interactions that routinely occur in domestic space but are afforded little attention in architectural design due to their ephemerality. They include: *curiosity, intimacy, guilt, trust* and *infatuation* (Fig. 2 - 6 respectively). These social interactions were mapped from a domestic interior to establish the unseen spatial characteristics of each type of engagement (Fig. 1). Based on the work of Piranesi and Lerup, this project used the unique affordance of drawing to sustain and reflect the unbuildable qualities of each social interaction.

The central mechanism for translating these unseen social interactions into seen drawings was based on Henri Lefebvre's social theory of space. In his book *The Production of Space* (1991), Lefebvre outlines a triadic structure as the foundation of social space involving an interrelationship of power (*Representations of Space*), built space (*Spatial Practice*), and social engagement (*Representational Spaces/ Spaces of Representation*[5]) (Lefebvre 1991, 33; 38-9). An essential premise of this triadic structure is the idea that space does not exist independently of human action but instead is a product of our relational engagements and subject to the "tension-filled" (Olivier 2011, 79) effects of power and people.

Based on this relational understanding of space, the core process of this project was to deconstruct a formal understanding of space as neutral and uniform. Each drawing required its own type of space to reflect the unseen, unique characteristics of each type of social interaction. Lefebvre's triadic structure was applied by establishing a relationship between *intention, space,* and *interactivity* in each drawing to reflect the properties of real social engagements. The result was a methodology of drawing where each was conceived for: a figure, embodying the intention of the engagement; a designed space that afforded the intentions of the figure; and an interaction with a second figure, embodying the effect of the engagement.

Where Piranesi's work separates the drawing from what is buildable to create dialectics on what is meaningful, *Virtual Relations* uses the same practice to create dialectics on the relational spaces we create by being together. Similarly, where Lerup guides dialectics to reflect the complex spatial diplomacy of courtship, *Virtual Relations* uses it to reflect the spatial moves afforded by each of the five social interactions: *Curiosity* (Fig. 2) depicts a space where each inhabitant perceives the other through a third space that neither can enter; *Intimacy* (Fig. 3) depicts a space for witnessing the other inhabitants' solitude; *Guilt* (Fig. 4) enables inescapable hegemonic perception of one inhabitant over the other; *Trust* (Fig. 5) is the only space where each inhabitant can meet freely; and *Infatuation* (Fig. 6) enables one inhabitant to view

oneself covertly viewing the other. The results are drawings that create dialectics on the meaning of social interactions by depicting the co-creation of space and relational engagement.

This portfolio was able to sustain this investigation into social spaces of the domestic interior by making full use of the unique attributes of the medium of drawing, as a site to explore the logic of ephemera. Such a mode of drawing, which removes expected outcomes and sustains unbuildable elements, offers a means to explore the unseen mechanisms of social processes and contribute to the infinite dialectics of meaning in social space.

Notes

1. *Love/House* consists of 49 drawings and model, made from 1981-84 and exhibited as *MATRIX 76* at the University Art Museum Berkeley, in 1984 (BAMPFA 1984). A selection of these drawings were published in 1987 by the Canadian Centre for Architecture and distributed by The MIT Press in the book Planned Assault (Lerup 1987). The drawings of Love/House from Planned Assault are what this paper refers to.

2. Michel Foucault's original lecture was delivered in March, 1967. This paper uses Jay Miskowiec's published translation from 1986.

3. Full quote: "real places—places that do exist". See Michel Foucault, "Of Other Spaces," trans. Jay Miskowiec *Diacritics* 16 (1986): 24.

4. James J. Gibson originally used the terms "scene" and "surface" instead of space and image. Though space and image are implied in his original description "The information displayed is dual. It is both a scene and a surface, and the scene is paradoxically behind the surface." See James J. Gibson, "The Ecological Approach to the Visual Perception of Pictures," *Leonardo* 11 (1978): 231.

5. Henri Lefebvre originally used the term *Representational spaces* in The Production of Space (See Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell, 1991), 33.) though the term *spaces of representation* is a common substitute.

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Bio

Luke Tipene is a Lecturer at the University of Technology Sydney, Faculty of Design Architecture and Building. His research focus includes theories of space, visual perception and architectural representation. Tipene investigates the role of drawing in the production of meaning in architecture. He has spoken at conferences, written on the subject of architectural drawing, and has run design drawing workshops throughout Australia. Tipene maintains an active practice in drawing, curation and design. His work has been exhibited nationally and internationally and he has been involved in several artist-in-residence programs in Australia, the UK and Europe.

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006

Design, Demos, Dialectics: Max Raphael's Theory of Doric Architecture

Patrick Healy

108–123

The main focus of this paper is to examine the analysis offered of the Temple of Zeus at Olympia by Max Raphael in his study dedicated to the remains of the temple. The temple of Zeus at Olympia is often cited as the canonical example of Doric temple architecture and Raphael examines how a particular design can have such far ranging influence, to which end he elucidates the relationship of design to the activity of a participatory and democratic process specific to the Greek polis. By bringing to bear a highly dialectical analysis of the various forces at play in both construction and the elaboration of the temple, Raphael advances a brilliant interpretation which takes account of the social, spiritual and material dimensions at play and dissolves older academic understandings of the achievement of 'classical art'.

#Max Raphael

#Demos

#Dialectics

#Doric

#Design Social

Design, demos & dialectics

This paper will look at a discussion on design, "demos" and dialectics in a remarkable series of studies conducted by the German theorist and philosopher Max Raphael, whose writing about the Doric Temple will be its focus. More specifically, it will examine the arguments on the Temple of Zeus in Olympia to which his study is largely dedicated. As this work is not available in English, nor his earlier published work on the Doric Temple from 1930, I take the liberty to give extensive paraphrases of the German original in English.[1] I will also show that the analysis provided by Raphael allows one to understand what is meant by speaking of a dialectical method for the analysis of the design achievements of the Doric, and the role of the "*demos*" – the term in Greek refers to the people – in their collective and participatory democracy with regard to the religious, spiritual and social meaning of these temples. This paper also expands on my previous notices of Raphael's work in my *Beauty and the Sublime* (Healy 2006, 63-71) and an article for the inaugural edition of Footprint, "Max Raphael, Dialectics and Greek Art" (Healy 2007, 57-77).

In the first part of this paper I will briefly indicate the reception of Raphael, especially in English. In the second part I will outline in some detail his analysis and method of work on the Doric Temple, and in the concluding section relate the development of the social and dialectical significance of the architecture and Raphael's distinction of his use of dialectics from that of Hegel.

The interest and appreciation of Raphael's work in English can be traced from the earliest response in the *Marxist Quarterly* in New York 1937 to reviews of his two publications: *Prehistoric Cave Painting* (1945), and *Prehistoric Pottery and Civilization in Egypt* (1947). Meyer Schapiro prepared the article in the *Marxist Quarterly* from Raphael's *Zur Erkenntnistheorie der konkreten Dialektik*, which was published in 1934, and entitled "A Marxist Critique of Thomism".[2]

The renewal of interest in Raphael was further stimulated by a publication of the volume *The Demands of Art* in 1968, in the Bollingen Foundation series (a volume made up from the then unpublished German manuscripts "Wie ein Kunstwerk gesehen sein will" and "Empirische Kunstwissenschaft"; translated by Norbert Guterman). In the Introduction, Herbert Read suggested that the little known author had made "the most important contribution in our time to the philosophy of art" (Read 1968, xv).[3]

In the following year, 1969, John Berger endorsed Read's judgement and bestowed high praise on Raphael's work. It was Berger's advocacy, in its evaluation, for example, of Frederick Antal and Max Raphael, which influenced the direct engagement with these authors—in the case of Antal via Anthony Blunt at the Courtauld, and in the case of Raphael by the art theorist Jonathan Tagg. Tagg was in direct contact with the literary executor of Raphael, Claude Schaefer, in Paris. Tagg added considerably to the awareness of the range and extent of Raphael's work.[4]

In the 1970s and 80s one can speak at the same time of a parallel revival of interest in Raphael's work in Germany that culminated in the Suhrkamp edition of eleven volumes of his writings in 1989, largely on the initiative of Hans-Jürgen Heinrichs. Raphael's work started to reappear in publication in, then, East Germany thanks to Norbert Schneider and Jutta Held; and Tanja Frank wrote an academic study of Raphael in relation to the Marxist theory of art.[5]

Elizabeth Chaplin published *Sociology and Visual Representation* in 1994, and in the first part of the study (Chaplin 1994, 19-112) there is an extensive discussion of Raphael that is largely influenced by

the research of Tagg. The next major contribution in English was an essay in the publication edited by Andrew Hemingway, *Marxism and the History of Art: From William Morris to the New Left*, where the author, Stanley Mitchell, focused on the essay in *Demands of Art*, which headed the volume on Cézanne. The earliest independent book publication of Raphael, *Von Monet zu Picasso*, has been subject to a recent extensive re-evaluation by Françoise Delahaye in *Études Germaniques*, in 2008, following her doctoral work on Raphael, which she defended in 2008 at the Sorbonne (Delahaye 2008, 7-80).[6]

In a substantial book-length study of Picasso and Marx, Professor Sarah Wilson of the Courtauld London again returned to look at Raphael's writings on Picasso and the sociology of art in detail, and re-considered the implications of his critical work, such as found in an essay on *Guernica* in the *Demands of Art*, which was such an inspiration to John Berger. Professor Wilson provides a helpful account of the teaching work of Raphael in Berlin, where the main text on "Classical Man in Greek Art" was prepared for delivery to workers.[7]

I would like now to turn to Raphael's extended treatment of the Temple of Zeus at Olympia *(Fig. 1)*. For Raphael, the understanding of the Doric temple and the classical conception of the human situation was a matter of fascination to historians, not only for the impact such creations exerted on Rome and India, but on all subsequent revivals of antiquity. He hoped that the understanding of such achievements would help in efforts to transform the world. Understanding the making of this art would allow one to clarify a few facts that had been obscured by "the evolutionary prejudice prevalent in the historical sciences." [8]

The task Raphael advances is to grasp the creative method and not simply describe the product of the imagination of classical man. In other words, the task is to understand the transforming actions of creation, which needs to not only contemplate the "what," but also reflect on and re-experience the "how." To that end, one must gain insight into the forces which, under the name of Greek art or the classical, have so profoundly influenced history for reasons that, Raphael argues, remains largely unknown. He would also, *inter alia*, address the question of how the design of the Doric Temple could be so paradigmatic over such a long period of time when social and other conditions changed from which it emerged.[9]

Raphael opts to examine in detail a small number of works in order to clarify the method by which they were created and their historical background. One dimension of the historical background suggests to him that the tradition, the ultimate Neolithic foundation, and its impact on Egypt was a hostile one, against which "nascent classical art had to assert itself." Raphael sets himself the task of solving the problem of the classical achievement, and thus provides a weapon against the irrationalism of the phenomenologists, existential philosophers, no less than against, what he calls the pseudo-classical works from Raphael of Urbino to Ingres, and contemporary abstract artists making the resounding claim that: "The heart of genuine classical art is dialectics, and it is one of the deepest ironies of history that the most dialectical of art should have come to be regarded as the most dogmatic, as the mother of the academic".[10] For Raphael, dialectical art cannot be imitated. It is the method by which it is created that deserves to be studied, not because it gives the direction to some new, third, or fourth, or fifth humanism, "but to a humanity that will for the first time in history be truly free."

Raphael then provides an analysis of the central figure in the west pediment of the temple of Zeus at Olympia, and makes two observations that will guide understanding; the figure, like the pediment itself, is intimately related to the architecture, and within the pediment it is related to other figures

"as part of a community and a formal whole." Thus, one cannot treat the figure as a body confined to itself, as an isolated work, and thus self-contained and primarily autonomous. At the simplest level, and on first sight, the pediment is a bounded area of definite size, structure, and dynamic tendency. It is a low triangle with very acute angles at the base, and thus strongly inclined sides. The varying height of this area partly determines the choice and arrangement of the objects represented in it; its shallow depth determines the type of modelling employed. In this case it is the use of high relief for the sculpture. The varying height of the pediments, which increases as one moves from the sides to the centre, also imposes a distinction between primary and secondary figures, a gradation of their importance in terms of the action indicated, and even a specific manner of representing the action.

Further, one can observe that the strongly accentuated centre imposes a symmetrical arrangement, and thus precludes a continuous development from a beginning to an end. The slanting sides of the triangle suggests a rising movement if they are seen from both ends, and of a falling movement if seen from the apex, and the dimension of width is broken up into two opposed directions which raises the problem of their unity. That means the very form of the pediment suggests to the artist—also in the dimension of height—whether each of his figures should suggest a rising or falling movement, and how each should embody movement in its own way.

In the dimension of depth, the human figure is situated between the open space in the front, with its light and air and the impenetrable wall behind, so that the volume of the body can be developed only in parallel and diagonal directions in relation to the two different boundaries. In the case under observation, the central figure of the west pediment, the outstretched arm and the head of the figure, suggests the form of a half pediment. Thus, the form of the pediment has been introduced into the human figure and conversely, the asymmetry of this figure has been carried into the symmetrical form of the pediment.

The height of the pedimental triangle at midpoint performs two functions: it co-ordinates all symmetrically located elements, and it introduces a paradoxical asymmetry at the point of convergence. Thus one can speak of a function of centring and a function of breaking up. There is an emotional effect in this contrast, which is made more intense by the fact that while the pediment rests securely on the entablature, the tallest and most important central figure in the pediment is not supported by a column, but stands above a void, which opens the dimension of non-being. In the east pediment, for example, Zeus is also placed above a similar void. Raphael draws from this the interpretation that the architecture discloses the dimension of non-being in the human figure; the human figure discloses the fundamental conflicting character of being in the architecture.

The triangular form of the pediment does not determine the form of the human figures and groups directly, but indirectly, to the extent by which it is determined by the architectural whole of which it is a part. The geometric triangle also occurs in the whole as a form, which mediates between the vertical columns and the horizontal stairs and entablature. From the corners of the stereobate over those of the stylobate and of the anta behind the peristyle, sloping lines lead into depth and they mark the beginning of a triangle that is completed only ideally in the cella.

In the dimension of height, the triangle is suggested by the reduction of the diameter in the upper part of the columns and by the imaginary lines connecting the outer points of the base of a pair of columns with the centre of the triglyph above them. The significance of this ideal triangle for the construction and proportion of the whole façade was argued for in Raphael's 1930 publication, *Der*

dorische Temple. Raphael went to Paestum, a reprise of the journey made by Winckelmann in the 1750s, and made on-site measurements, which indicated that the ideal triangle touches the lower corner of the abacus in the two central columns, a point that is crucial for understanding the static play of forces. In the corner columns, it touches the upper corner of the abacus, so that the contraction of the intercolumniation of the façade is closely related to the height of the abacus, and the phenomenon of contraction and tapering becomes recognisable as two variations of the same idea. The real pedimental triangle that crowns the temple façade is, therefore, the combination of the ideal triangles in the dimension of depth and height, which are closely related to the forms of space achieved, the perpendicular load and support, and the proportions.

There is another relation between the triangular pediment and the rectangular peristyle, which if not directly perceivable is rationally recognisable and felt in its effects. As mentioned, the two slanting lines of the pediment suggest two movements—one ascending, and one descending from corners to centre, from centre to corners. This is matched in the peristyle by the fact that spacing between columns is greater at the centre than the sides and this leads to a structural paradox, that the greatest height and, hence, heaviest part of the pediment is above the widest intercolumniation, where it receives its weakest support.

Raphael's contention is that the triangle that begins in the peristyle is completed in the pediment, and yet the pediment remains a part not only of the actual front, but also of the ideal triangle whose diagonals we obtain by extending the sides of the pedimental triangle. Thus, the actual triangle has become part of an encompassing ideal space that is not embodied in a material form, just as the space surrounding the structure below the pediment remains invisible. What can be derived from this is that the same basic attitude toward infinite space is expressed in the dimension of both depth and height. The intention is to create a physical limitation, to express only a part of the whole, but also to express, at the same time, the whole in the part.

What is further argued is that, even in such a mental experiment, the upward movement of the column is counteracted by an ideal pressure originating outside the Temple, at a level far above that of the entablature. Raphael, it is clear, uses this discussion to advance the strong thesis that one must reject the static conception of the Greek temple as a plastic, sculptural, body without spatial dynamism, or to see it merely as the solution to purely mechanical problems. In his rich array of arguments he wants to demonstrate how an artistic expression of broader, universal, ideas takes place. So it is that the pediment as analysed must be looked upon as mediating between two forces, must be looked on not merely as a static force, but, as a field of opposing forces that has become form.

The central figure in the pediment continues the rising movement from below, but starts from a void. Therefore, it is not the continuation of the column. At the same time this figure, whose head is close to the apex of the pediment, is more exposed to the ideal pressure from above than to the force rising from below. For Raphael, the Greek temple embodies the dialectical interaction of antithetical forces of various kinds—spatial, physical, and intellectual—and in its architecture these forces are adequately embodied in a finite, enduring, and clearly articulated structural body, which is harmonious. When one understands such multiple forces, especially in respect to their role in shaping space, it is, as he argued in *Der Dorische Temple*, possible to recognise the meaning of the whole. What Raphael will discover through his analysis, are the fundamental principles which guide the design and making of the temple.

Staying with the pediment, however, the element to be most emphatically grasped is the element of depth, the small intervals of space between the open space in front, and the pediment wall in the back. One sees the same principles for the sculptor and the architect at work—for the architect in the treatment of the space between stereobate and the cella wall, where above the stereobate, between the steps and the corona, the air-filled space opens up, and is differentiated from the surrounding atmosphere by the overall character of the structure.

With regard to atmosphere, we see on the stylobate plinths a space filled with bodies and air, and is rich in contrasts between light and dark. The alternations between the full and the empty, between light and dark, and between warmth and coldness over the whole width of the front are knit together by the modelling plane, the imaginary plane parallel to the front and back plane, which passes through the row of columns. This static modelling plane is supplemented by a dynamic factor.

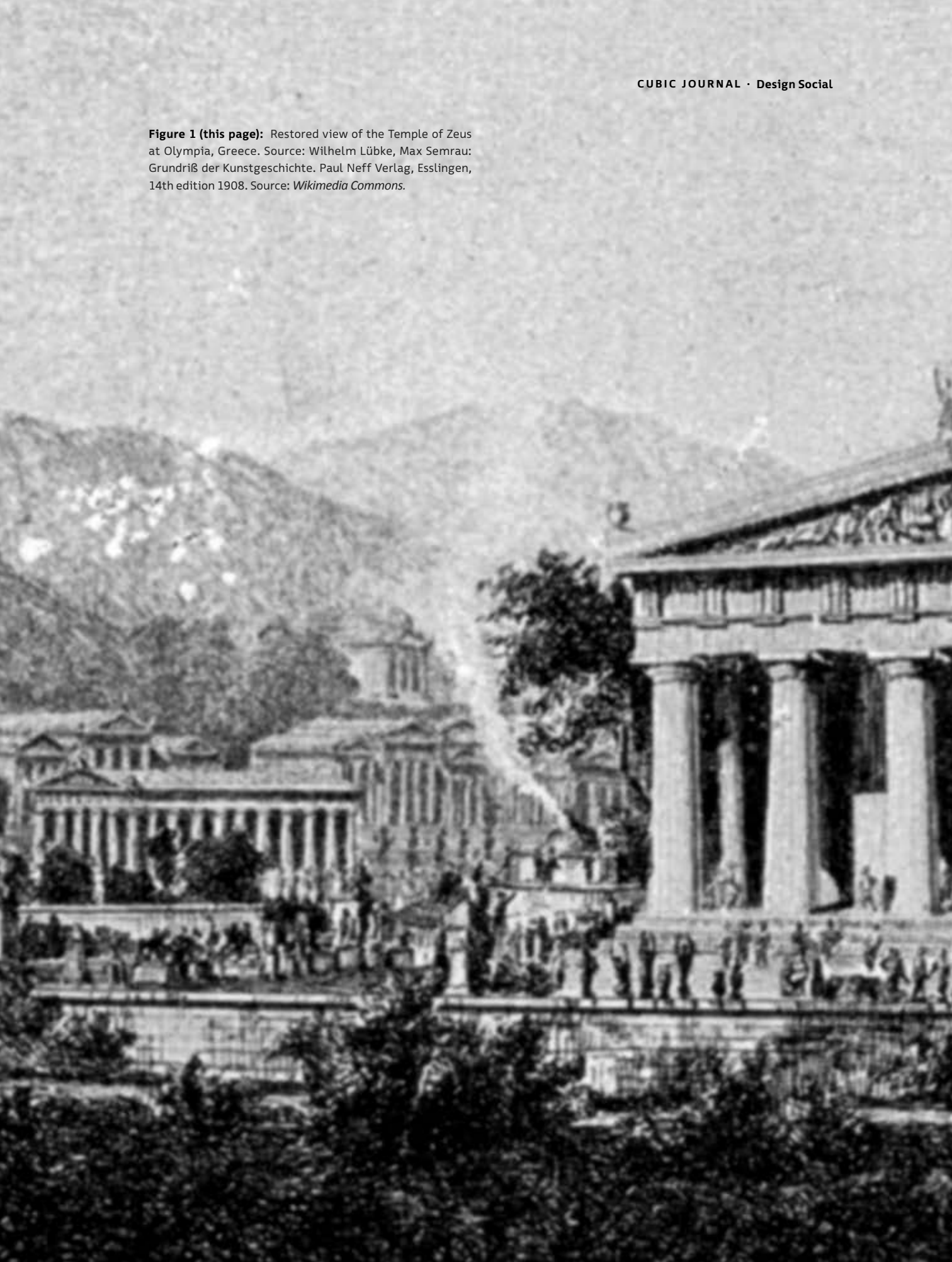
Standing directly in front of the middle axis of the temple we see the two central columns almost frontally, the next two at an angle, and the two corner columns at a more acute angle. The columns never stand exactly in the axes of the plinths. The lights on the columns are distributed asymmetrically. A great variety of brilliance and degrees of light is obtained, and lights and shadows of varying intensity play on the surfaces on all sides. Colour was also applied to hair treatment, eyes, lips, shoes, and weapons, all of which were often painted in bright colours or gilded. Colour served primarily to articulate levels of depth and to stress the contrast between static surfaces and vibrations of light, with areas that also vibrated in them.

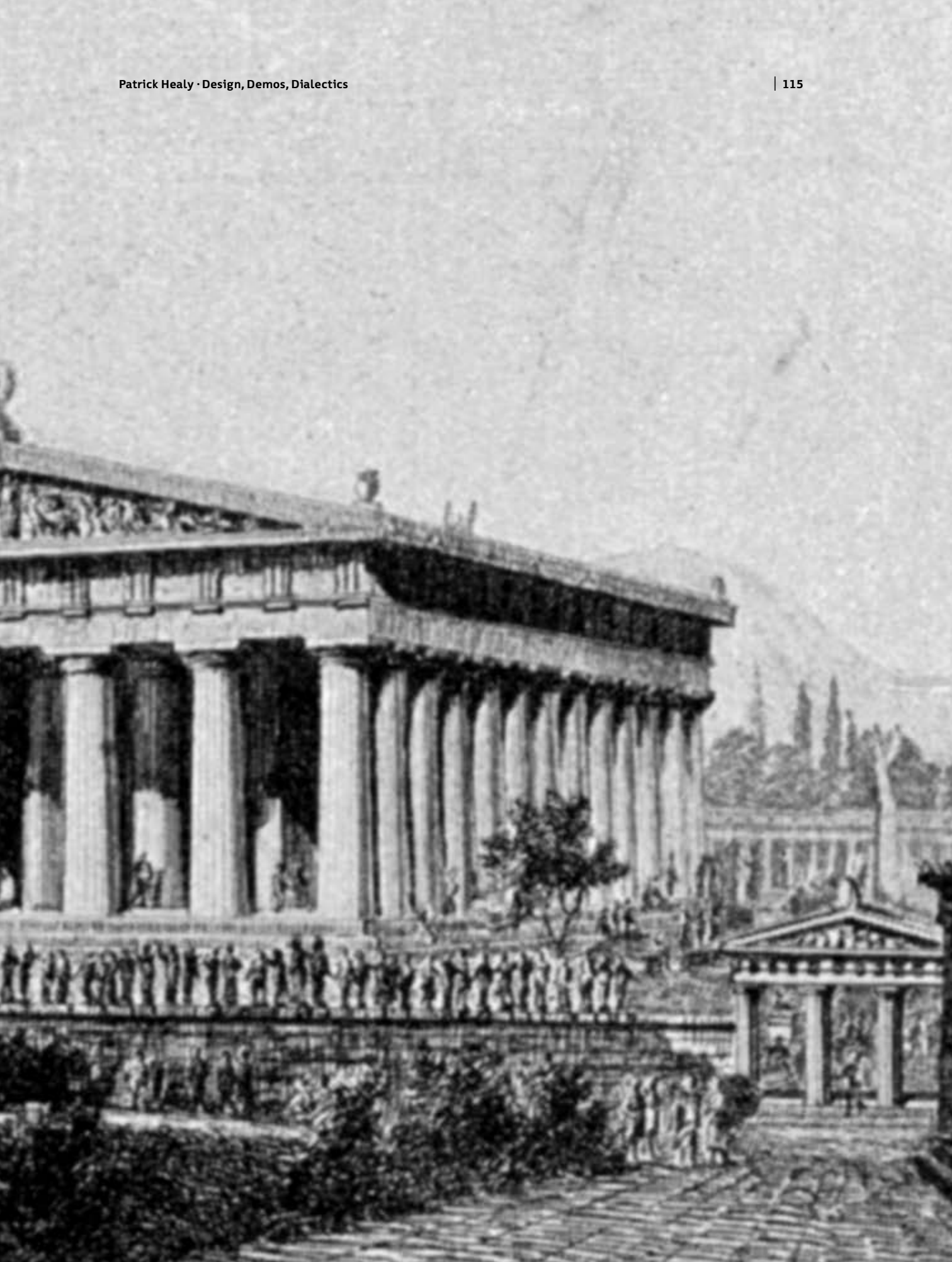
Heteronomous movement was opposed to autonomous movement. In the pediment, light and forms are inseparable, and even though light remains dependent on the curved surfaces, the same surfaces are dependent on light. Light and shadow determine the life and boundaries of each individual form, as well as the form of the whole. In this process of interaction, light retains a certain priority over form, although both tend to assume equal importance and merge, as they are more integrated and differentiated than in earlier sculpture. Raphael suggests the role of light in Archaic art (circa 600 BCE) shows that the contact of light and surface is tangential; with light gliding over the surface and always dependent on the inclination of the surface. For the pediment he sees the close union between the two, as reflected in the detailed modelling.

The Greek architect's conception thus starts from an ideal structure closed on all sides which is transformed into the actual artistic structure by opening the ideal wall to admit air and light, so that an air-filled space is placed in front of the space encompassed by the building and secondly the opening of the part behind the air-filled space at several points to create an alternation of masses and voids and a vibration of the void around an axial plane. A diagonal is also indicated, which runs from the corners of the steps, through the corner columns, and cuts across all of the parallel planes on both sides to the centre. Thus, this leaves one solid wall that checks the play of masses and light, only to open up behind the inner space. The same principle of alternating air spaces, portions of the wall, and diagonal intersections is applied in the treatment of the pediment.

Here Raphael begins to identify the guiding principles at work in the design. The discussion does not attempt to divide the work of the architecture and sculpture into different "aesthetic" domains: after all, the figure in the pediment is not merely a

Figure 1 (this page): Restored view of the Temple of Zeus at Olympia, Greece. Source: Wilhelm Lübke, Max Semrau: Grundriß der Kunstgeschichte. Paul Neff Verlag, Esslingen, 14th edition 1908. Source: *Wikimedia Commons.*





piece of sculpture added to the architecture as an ornament, nor is the column merely a mechanical support. The column was created out of the need to break up the ideal wall, and to express the contrast between the full and the void as a stage in the process of opening depth.

The operation of centripetal and centrifugal forces is seen more clearly in the cross section and elevation if one imagines that the opened wall has been rotated around its axis to produce a cylinder. This accounts for the flutings, where one can observe that the outer surface of the cylinder is drawn inwards in relatively wide grooves and sharply pushed outwards in narrow ridges.

The original surface of the cylinder is broken up into many actual surfaces of contrasting curvature and one imaginary surface, parallel to the original curvature, formed by the ridges. Ridges and grooves run along the entire column in unbroken lines, which are straight. These rigid, geometric lines constitute the outer aspect of the mechanical forces that are active between centre and periphery, as it were. They enable us to think of the column as a complex of forces that are tied visibly at the neck in order then to open of their own accord, and to exfoliate themselves as a kind of excess of energy.

The form of the echinus is a brief reversal of the form of the shaft, and the Greek column, Raphael remarks, "is not compelled to support but does so of its own accord." Although the column originates in space-forming forces that have nothing to do with the perpendicular static forces of load and support, it is a form that not only provides support, but is also in perfect balance with all the other forces, so that developing energy and actual structure constitute an indissoluble unity.

As the column was developed from the ideal wall, similarly the human figure was developed from the shallow space of the pediment in accordance with two principles: that of the supporting and relaxed leg, and that of rotation. These principles are combined within the boundaries of the block in the three dimensional system of co-ordinates that are shifted in several directions. In delineating the distinction within the design development, Raphael adds that the starting points are different— the architect starts from the "spurious infinity" of physical space, which transforms into a finite spatial body and contains the true infinite, whereas the sculptor starts from the finiteness of the human body and tries to express in it the infinity of the idea as the totality of the spiritual and artistic space. The two paths cross and complement each other in a single reality whose material surface is the unity of all developed oppositions. The different arts of making use one and the same method.

In this account, the column is first and foremost an architectonic function and form, and serves primarily to give form to space and embody the play of forces. Only after these forces have achieved formal existence is the human proportion added. Conversely, in the human body the forces of load and support are secondary, as it is subordinated to forces that are both physically and spiritually greater than the perpendicular forces because they come from the earth and from consciousness. It is in the development of the Doric that we see these different elements linked, because they are subjected to the same artistic principle.

According to this principle, the mechanical play of forces in the objective world is analogous to the play of ideas in consciousness; subject and object, being and consciousness, are harmonised and made to coincide through the mediation of the human body which, once thinking and being have been conceived of as distinct entities and have entered into a sufficiently close relationship, can become the vehicle of the synthesis of both, because the human body shares both.

With this interpretation of the epistemological problem, Raphael demonstrates that mechanism and organism cease to be an absolute antithesis, and within certain limits mechanisms can be treated artistically in analogy to the organism, just as the organism, without becoming a machine, can be treated artistically in analogy to mechanical forces. It is this precise interplay that was developed by Raphael in his earliest, full development of a theory of creative activity in his first full-length book publication, *Von Monet zu Picasso*.

In this book, Raphael spells out the consequences of this principle at work for architecture, noting immediately that firstly the entablature is placed like a continuous horizontal band on the individual vertical columns, and since no column is directly connected with those next to it, it is the whole row of columns that supports the entablature. Secondly, the round echinus and the square abacus are fitted to each other as closely as possible, which can be contrasted to the tall blocks on the top of Egyptian columns. Thirdly, each of the two elements influences the form and content of the other; the weight of the entablature is expressed by the entasis, and the rising movement of the column is expressed in the triglyph above the abacus. The difference between the two influences is shown in the triglyphs, which seem to be standing or flowing downward, and is stressed by the guttae. The presence of a homogeneous chain of supporting forms, the mediating function of the capital, and the influence of each formal element on the other, distinguish the treatment of the perpendicular forces in the Doric temple from that in any other architectural order.

However, the treatment of such forces varies according to whether they come into contact with the full masses or the void, and the variations represent the original opposition between the full and the void, solid and void, and how further variations can be shown to occur in the treatment of these opposites. For example, the solid is rendered in the squat form of the echinus or in the abacus, which does not yield to pressure and embodies the pure zero point. The void is rendered in the narrow dividing line between the echinus and the abacus, or in the shadow that envelops the entire capital. These architectural differences are of the greatest importance because the viewer's line of vision varies with them, and indeed the type of interpenetration between solid and void, and the dramatic or lyrical character of the temple depends on the very contact. Viewing the exact position between the top of the column and shaft, and the lower part of the entablature depends on each individual case, and on the solution given to the conflict between load and support. This is intrinsic to the design process, the solution to be found, and warns one against a schematic interpretation of the play of perpendicular forces in sculpture.

Raphael stresses, after a detailed account on the sculptural groups for both the east and west pediment, that the method of representing the action was determined by the fact that the pediment is divided into symmetrical halves. The principle of axial differentiation is asserted not only in the central figure, but also in the two-figure, and even in the three-figure groups. The artist gave neither priority to space nor time, since statics and dynamics are developed simultaneously, and the interplay between the two characterises the composition as a whole.

Self-abolishing, antithetical movements and symmetries within an over-all symmetry characterises the individual figures. Because static and dynamic elements are unified, the action does not unfold in the form of a narrative, nor in simultaneous episodes. Instead, there are a limited number of groups each of which portray a specific moment of the action and suggest the moments that came before and after.

The groups are arranged so that the action develops from centre to corners, which is the artistic action; whereas the real, referred-to action, develops from the corners to the centre. Thus, artistic time abolishes real time, and yet, the tension between the two is preserved. This shows why the asymmetries within the over-all symmetrical order are so important, for it is only by means of asymmetry and contrapposto that movement in time can be expressed in static terms. This must be artistically justified in res-pect to time, stages of development, or intensity, otherwise they degenerate, become mechanical, as is often the case in Renaissance art. Failure to recognise the dialectical interplay of time and space exemplified in the sculptural work inevitably leads to the pseudo-classical contrapposto and the academic "organ-pipe" arrangement.

Real connection in the pediment and among the figures is effected by the contrapposto, which is the 'asymmetrical symmetry' within each half of the pediment, and by the air and the atmosphere outside and between bodies. The architectural features of the temple match all of this. The entablature is not supported individually by each of the columns, but by all of them together, although each seems developed for its own sake. The columns alternate with the air-filled intercolumniation, which sets off the columns by flanking them with differently lighted areas. Thus contrasting elements are not linked by cross-beams, as halved piers and intermediate spaces are linked in the Christian church, but by alter-nations of bodies and air. The architecture of the temple and the composition of the pediment figures, Raphael concludes, express one and the same thing.

Each column or figure that enters into relationship with other columns or figures is characterised first, in its high degree of elaboration—a value of its own defined by the fact that the form of the column has significance that goes beyond its function or expression. Secondly, by self-containment, independence, and self assurance, it suggests nobility, self reliance, and a free and self-confident individual who does not seek to dominate others and refuses to submit to others, and yet they change into their opposite and become part of a whole without resentment, without losing their individuality. This perfect balance between community as an independent entity, and existence as part of a community, expresses both law and freedom.

The individual elements are linked together as much by these subtle similarities as by contrasts in the fullest sense of the word. If it be contrast between load and support, between solid and void, the concave and convex, we are in any case made to perceive both the actual polarity and the actual interlocking, as well as the imaginary principle which is the source of the oppositions. The Greeks did not know the direct transition from similar to similar that bridges the opposites and that which is embodied in the arch; they knew only the conflict of opposites that were originally united and strive to achieve definite unity.

Raphael goes on to assert that the relation obtaining between the whole and the parts is not one of direct dependence; the parts do not directly determine the whole, nor does the whole directly determine the parts. The absence of dependence and directness is made possible not by the presence of a hierarchy of mediations, but by the operation of a formal, mathematical principle which governs the geometric shape and the proportions both of the whole and of the parts, so that their harmony is achieved indirectly, and each preserves an appearance of freedom.

The principle here is not a transcendent power. Its mathematical character shows that it was conceived as an intermediate link between the Idea and the Phenomenon. It participated in the

figures and in the thinking, and although logical in itself, it was possible to arrive at it by purely rational dialectic means. The order to which the conflicting forces was to aspire was an order of being, which Raphael contends, accounts for the preference given in the best period to the Golden Section, as the manifest form giving proportion.

The whole was always conceived of as an articulated whole, which was not allowed to infringe on the independence and freedom of the parts, no more than the part was allowed to break up the whole. The proportions that governed the parts were adjusted to the proportions governing the whole, as elements of the latter. The absolute dimensions of the elements determined the proportions, and from the whole a series of operations derived a unit of measurements, and the unit of measurement led back to the whole by a series of operations in reverse.

The whole is not defined by its sociological function; as a sociological entity its religious character distinguishes it. The Christian church is first a symbol of the Redeemer, since the cross is the principle that governs the spatial arrangements. Secondly, it is the meeting place of the faithful whose God can only be worshipped spiritually, that is as a symbol of the community. The Doric temple is not in any sense a meeting place of the faithful; it was not the house or even the symbol of the divinity, but merely the place where the divine image was kept.

When Homer portrays Odysseus as the man who restored state order, when Aeschylus settles the tragic conflict of a family by the institution of the Aeropagus, when Plato says that the purpose of the State is to bridge the gap between Appearance and Idea, the inevitable implication is that the social institutions have a religious significance, not because their primary purpose is religious, but because they are creations of community. The same is true of the temple, because in Greek society it is the *zoon politikon* that gives religious consecration to the temple, not the spiritual authority of the Church as was the case in Western Europe throughout the Middle Ages.

The Doric temple does not express a universal idea; it is a specifically Greek product that expresses the *polis*, the Greek city-state. The city-state could not internally expand the only form in which its economic ambitions could be realised, as an alliance of several city-states, which in the end destroyed them. Similarly, the community of elements realised in the Doric temple cannot be expanded. The temple is a finite whole incapable of any metaphysical approximation to the infinite.

In one essential respect, Raphael maintains, the temple, or the pediment sculpture, differs from the polis. In the individual city-state as well as in the relation of the city-states, the centrifugal forces (agriculture, aristocracy, Sparta), were stronger than the centripetal (trade, democracy, Athens). In the work of art, the centripetal forces are preponderant. The attraction of the stressed middle axis, the *Chthonian* energies pressing on the corners, the atmosphere, the contrapposto. The work of art was not an imitation of reality—Raphael rejects so-called classical mimesis theory—or a merely imagined idea, a product of phantasmata. It was rather the Idea conceived as the unity of the actual and the possible, and it expressed the unity between the controlled and the uncontrolled sectors of the world. In the reality of the work, the artist embodied his vision of the unity.

A remarkable feature of Raphael's analysis is his notion of the constitutive seeing of the viewer, and of us who are critically engaged with understanding his dialectical exposition. Thus he can speak of the observer who views the surface of the stone and what he initially discovers, guided by intuition, namely that the light and air coming from the surrounding physical world penetrates into the medium and makes it alive.

The two separate worlds meet in the surface, the outer and inner world interpenetrate and become united in it, that is to say the surface is dematerialized, it is spiritualized. Yet the materiality is not destroyed. Two apparent opposites find their unity, and the bearer of this unity is not some spiritual entity, but the medium itself. In the surface of the transformed stone, inner life has acquired a physical quality, and the physical surroundings a spiritual quality. The medium is not sublimated into a non-material principle, rather it acquires a more intense materiality. We are shown materiality pure and simple.

Transient matter is made eternal in the stone medium, and the spirit that animates it reaches to the surface of the body. The environment is not only thought of as air and light, but as a void that possesses full material and physical reality. The embodiment of unity is understood via the elements and the method. Thinking of marble, what we perceive is a mostly homogeneous and monotonous whitish colour and vibrating light. These visual sensations stimulate the sense of touch, thus one can visualise the tactile qualities of the marble. Raphael, in the theoretical part of *Von Monet zu Picasso,* developed this theory of tactile-seeing, of the visual-haptic. Here he draws a distinction with Egyptian sculpture, where the visual and tactile are contrasted with what are taken as primary qualities of the medium—heaviness, hardness, and permanence.

Classical art is bound to marble to such an extent that one could almost say that without marble it would not exist. As an artistic medium it is halfway between poros and granite. In the purest variety of Parian marble, for example, the average size of the crystals is 1–1.5 mm (sometimes 2–3 mm). Because of its coarser and firmer crystalline structure, this marble is more transparent than many other varieties, and light penetrates it from and for a greater distance. In its natural state light penetrates it and it is structured. The physical and spiritual worlds are not merely juxtaposed, but matter is spiritualised to the same extent as spirit is materialised. The inter-penetration of form and light makes possible a synthesis between outer and inner worlds, between body and soul. Neither is reduced to sameness nor conceived as congruent, the two are embodied in the work; one as air and light-filled space, the other as intense human expression. In the unity of content and visual means of expression there is the completion of the constitution of the artistic unity. Classical art ultimately works with bodies and forms. The classical artist shifts his system of co-ordinates in such a way that the deviation remains measurable. In sculpture for example, the notion of the structural block is transformed into artistic space. The old square/cross section of the block has been replaced by a rectangular one, thus freeing the human figure from its subjection to the block. Space is no longer seen as abstract opposition between full/empty, being/non-being, rather it is expressed out of the human figure with its proportions and space and path making activities.

It is the essence of classical art to represent the individual idea not so much in and through the human figure, but as the human figure. The human figure does not play the part of an artificial mediation between matter and spirit, but, is rather a stage in the process of unifying the two by dematerialising the medium and by materialising the spiritual expression. Unlike Hegelian dialectics, the Greek consists in the unity of opposites in a simple and finite process, complete with the creation of form, from the natural medium, the figure that is both spiritual and material, and the expression in the spiritual/material in the artistic idea.

Notes

1. All Max Raphael Citations from http://maxraphael.org/about/bibliography. For full bibliographical references see the bibliography at *maxraphael.org* prepared by Mr. Jules Schoonman, and some of the biographical material carried currently at that site.

2. See: pages 285 – 293 in Meyer Schapiro's work.

3. The volume *The Demand of Art*, published in the Bollingen series in 1968, remains along with the volume *Proudhon, Marx, Picasso,* Raphael's best-known publications in English. Professor Robert Co-hen of Boston was instrumental in helping arrange publication. The volume contained essays on which Raphael had been working since teaching at the Berlin Volkshochschule. It was re-edited in German, from the typescript and appeared in 1989 as part of the Suhrkamp Werkausgabe, as "Wie will ein Kunstwerk gesehen sein," where the editorial account of the volume can be found at pages 261-368. The comments from Herbert Read is to be found in '"Introduction," xv of *The Demands of Art.*

4. For fuller secondary sources see Andrew Hemingway, *Marxism and the history of Art; From William Morris to the New Left*. London: Pluto, 2006. Chapter 5 of this publication is entitled "Max Raphael: Aesthetics and Politics," 89-106, and footnotes at 239-241, with references to the work of Tagg and others. For Tagg's contribution see his edition, with Inge Marcuse of *Proudhon, Marx, Picasso*, Lawrence and Wishart, London, 1980.

5. See: *Max Raphael. Arbeiter, Kunst und Künstler,* (Dresden: Verlag der Kunst,1975), 391-410, with a post-script by Tanja Frank, "Max Raphael's *Kunsttheoretischen Konzeption*," the first introduction to Raphael's work in the former DDR or German Democratic Republic.

6. See: Denise Modigliani, in edition, *Max Raphael Questions d'art*, (Paris; Klincksieck, 2008), 7 -80.

7. A paperback version of Wilson's work has been available since 2016.

8. I acknowledge the immense help I had from Professor Schaefer, who made available working material from Norbert Guterman, and others on Raphael's writings on this subject. I have followed their work closely.

9. Raphael raised the question, which may be taken as the fundamental guiding question of his research in response to what he took as the brilliantly formulated, but still unresolved theory of art in Marx's, "Zur Kritik der politischen Ökonomie" : "But the difficulty is not in grasping that Greek art and epos are bound up with certain forms of social development. It rather lies in understanding why they still constitute with us a source of aesthetic enjoyment, and in certain respects prevail as the standard and model beyond attainment." (MEW, vol., 13, p.640 ff, Marx-Engels Werke, Dietz Verlag, Berlin.) See my discussion in "Max Raphael, Dialectics and Greek Art," ed. Stanek and Kaminer, Footprint (Autumn, 2007): 57-77.

10. I am following the text as established for the Suhrkanp Werkausgabe, Max Raphael, Tempel, Kirchen und Figuren, "Der klassiche Mensch, dargestellt am Peirithoos im Westgiebel des Zeustemples von Olympia," (Frankfurt-am-Main: Suhrkamp, 1989), 293-399.

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Bio

Patrick Healy is a senior researcher at Delft University of Technology, Faculty of Architecture and the Built Environment, and Professor of Inter-disciplinary research for the Free International University, Amsterdam. For recent publications see *patrick-healy.com.*

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007

Designing Space for the Majority: Urban Displacements of the Human

AbdouMaliq Simone

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Social, historical and architectural research on urbanization processes in the Global South have increasingly valorized the contributions of an "urban majority" – a heuristic composite of working poor, working and lower middle class residents – to the formation of intricate repertoires of built forms, economic practices, infrastructures of affect, and collective sensibilities. Despite oscillating registers of structural violence, colonial residue, geopolitical instability, and systematic dispossession, metropolitan landscapes of the South are replete with an incessantly recalibrated intensity of working with and through uncertainty to deliver ways of life that skirt precarity. The auto-construction of the majority is usually associated with particular forms and practices. If the territories of operation usually associated with this urban majority may find themselves increasingly hemmed in by countervailing forces, is it possible to imagine new forms through which the "archives" of their capacities might be expressed? By intervening into the increasingly formatted, homogenized venues of residential and commercial space, it is possible to conceive new possibilities of the ways in which "majority life" can be re-enacted, but in a manner that strategically modulates the very ways in which that life is made visible.

#Urban Displacement

#Socialisation

#Governance

#Contestation

#Design Social

Introduction: the inhuman majority

Just as notions of the urban are being extended across multiple spatial and temporal formations, so too are the modes of divergent inhabitation no longer contained by or cohered within the once predominant figuration of the human as *anthropos*. For the bracketing of cities as the embodiment, performance, and culmination of urbanisation processes, while maintaining the façade of distinctive jurisdictions, is subject to intensive porosities and fragmentation. Cities exhibit a protracted history as differentiation machines, constellating the "proper name" of their normative inhabitant "the human" as an entity prohibitive of being anything else than what it is. In other words, not something potentially intertwined with various ecologies and life-worlds as a facet rather than the central player (Colebrook 2015; Wagner 2011).

The city existed as the locus through which certain inhabitants could reflect on their being as a singular prerogative, untranslatable across other modalities of existence; the formation of a "we" unrelated to anything but itself, yet inscribed as the node whose interests and aspirations were to be concretised through enclosure and the expropriation of critical metabolic relations (Cohen 2012; 2016). The capacity to reflect and manage the recursive intersections of materials, space, and bodies required inscriptions of gradation that specify various levels of capacity and right, designate who was to be considered human or not as the means to capture the volume of labour sufficient to monumentalise the centration of human form, and to constitute the living embodiment of property and freedom (Ruddick 2015). The capacity of the human to operate according to the maximisation of its position required a notion of free will, of the ability to act freely amongst otherwise constraining interdependencies, and this necessitated relegating certain bodies to the status of property, capable of circulating only through the transactional circuits of economic exchange and valuation.

In the colonial urban, the outlines of the "modern city" took shape against a backdrop of appropriable and disposable labour whose self-reproduction was largely the responsibility of labour itself (King 1976; McFarlane 2008). Populations were frequently expelled, not recognised or accorded limited and provisional rights. Whereas postcolonial states often sought to extend a broad range of public affordances to urban residents of varying backgrounds and statuses, the impetus of modernisation and the incursions of on-going imperialism largely left the majority of residents of postcolonial cities in a prolonged state of political limbo and underdevelopment (Betts and Ross 1985; Legg 2007; 2008). All phases of colonial rule did experience substantial resistance on the part of urban majorities, and this resistance was multifaceted in terms of the explicitness of the demands and the organisational vehicles deployed to win spaces of operation (Kipfer 2007). Resistance was never simply a claim for inclusion into the prevailing ideological frameworks or administrative disposition of urban life. The subjected, assumed to be largely incapable of concretising multiple collective imaginations, largely operated in the interstices between sheer survival, intensive surveillance and indifference to generate provisional, always mutating forms of urban life not consonant to its hegemonic forms (Scott 2005; McKittrick 2013).

These were concretised throughout long processes of "auto-construction." Here the density availed by urbanisation means not just packing in a lot of things into a limited space. Rather, it is the creation of a particular kind of space where people, with their devices, resources, tools, imaginations, and techniques, are always acting on each other, pushing and pulling, folding in and leaving out, making use of whatever others are doing, paying

attention to all that is going on, fighting and collaborating. Metropolitan systems throughout much of Latin America, Africa and Asia gave rise to the elaboration of "majority" or "popular districts" that largely served as an interstices between the modern city of *cadastres*, grids, contractual employment, zoning, and sectorial, demarcated institutions and the zones of temporary, makeshift, and largely impoverished residence. While folding in aspects of each kind of territory, such majority districts were not simply hybrids, but staging areas for a multiplicity of agendas, operations, social compositions, and aspirations. (Holston 2008; Perlman 2010; Vasuvedan 2015; Caldeira 2016; Minuchin 2016; Vinay and Maringanti 2016).

Processes of auto-construction depended upon intricate ways of allocating land and opportunities, working out divisions of labour and complementary efforts, and enabling individuals to experiment with their own singular ways of doing things but in concert with others. Thus, governance institutions were built as distributed across differential relationships and spaces, rather than located in specific offices, bureaus, sectors, territories or functions. In other words, "institutions" existed, but in a dispersed rather than centralised form; institutional functions existed within and across a landscape of relationships of residents as they actively parcelled and settled land, elaborated provisioning systems, and attempted to insert themselves in the flows of materials, food, skills, and money (Benjamin 2008; Lindell 2008; Bayat 2010; Anwar 2014; Simone 2014; Perera 2015).

Such distributed agency did not obviate the consolidation of metropolitan and national institutions endeavouring to exert administrative and political control over these districts. Yet as largely interstitial territories—between divergent logics of accumulation and consolidation—they became a critical arena through which states attempted to configure particular practices of governing (McQuarrie et al. 2013). Rather than the state developing as an abstract, clearly delineated entity separate from the realities experienced by the majority of residents, states had to "find their feet" operating through engagements with various ways of doing things that did not fall squarely within their purview or within legal frameworks (Singerman 2009; Roy 2011; Ghernter 2014; Boudreau and Davis 2016). In order for states to attain some traction and legitimacy within the accumulation and management practices of the urban popular, they often had to operate through a wide range of so-called "informal" logics and practices. As Diane Davis (2016) points out, the authority of the state does not always coincide with its interests and, as such, informality becomes the locus that attempts to mediate the tensions that ensue when these two aspects of the state conflict. More significantly, the very shaping of the state – its rules, policies, operational procedures – are largely contingent upon how it addresses and operates through the multiple trajectories of self-evolution that have characterised the elaboration of majority districts.

Interfacing disarticulation

At the same time, as metropolitan systems become increasingly articulated to a wide range of production networks, commodity chains, and circuits of investment and consumption, those systems then come to exist for and through an oscillating matrix of relations that revalue existent processes of livelihood formation, labouring, and production (Mezzandra and Neilson 2015; Dory 2016). As these relationships are characterised by competition, increasing standardisation and the exigency of distinctiveness, modes of provisioning are transformed, as well as the particular ways specific lives and practices are valued. Enhanced articulation of metropolitan systems to a larger world entails the disarticulation of

specific places, bodies, and ways of doing things that are increasingly devalued or reified as the embodiments of that which needs to be rectified or is beyond redemption. But rather than being simply cast off, the anachronistic or improper is maintained as a form of incarceration, or more significantly as the occasion to generate new enclosures and privileges and constitute new urban identities, while at the same time, creating a shadow world where primitive accumulations can accrue unimpeded or to which inefficacies can be attributed (Blair and Werner 2011; Berndt 2013; Bear 2015).

While these zones of marginalisation mostly consisted of what are conventionally known as slums or informal shack settlements, majority districts were not immune from the crossfires of articulating and disarticulating forces. As interstitial places they exuded a wide range of countervailing tendencies. Different trajectories of agglomeration and parcelling, reinvestment and accommodation to decline, constant incremental improvements and acts of doing nothing, trends toward accumulation and consolidation, as well as letting things disperse and dissipate, locally induced conversions of land and buildings and external appropriation of them—all of these inclinations existed next to each other, and where it was not always clear what differences were at stake (see the essays in Graham and McFarlane 2014; Lepawsky et al. 2015).

Sometimes these majority districts completely self-evolved through the incremental efforts of residents, and the infrastructural articulations to the large bulk systems were also self-generated. At times states would acquire land, lay down basic infrastructure and housing, and then this was altered and remade by successive generations of residents. Often infrastructural articulations were patchy, in constant need of repair. Sanitation usually relied upon septic tanks, and power and water often had to be supplemented with generators and tankers. Sometimes there were collective elements in the production of local space, yet the incremental, piecemeal development and valuation usually lacked systematic coordination, and was more often private than collectively implemented. Nevertheless, there were marked interdependencies of cooperation, parasitism, growth, and implosion—a sense of tied fates—so that across all types of majority districts, if the "plug was pulled" on one, others were likely to follow in a trajectory of gradual decline. Importantly, such districts exuded the aesthetic appearance of planning without necessarily being planned. Here, plotted land distribution, according to specific local practices and logics, acted as the materialised mediation of multiple regulatory regimes.

Managing interfaces with a growing modern city and growing settlements of the urban poor required constant tending, as these districts were subject to various incursions from "both sides," and their endurance was largely predicated on how to fold in various facets and resources generated by both the modern city and settlements of the poor (Chattopadhyay 2006). Given the locational advantages that these districts had within the urban core and near the periphery, as well as their capacity to generate a heterogeneity of economic activities and a density of multiple household compositions, they constituted an important resource to be domesticated, expropriated, and straightened out by modernist and base political impetuses. They posed potential dangers as breeding grounds for contestation and alternate forms of political authority and legitimacy. As the compositions of their built and social environments made them difficult to read according to the techniques of engagement proffered by official government regulations, they often seemed overly opaque (Sundaram 2010; Weinstein 2013; Vigar 2014).

In such conditions, "real governance" was often subcontracted out to various types of extra-judicial authority or a local political class was cultivated by availing various favours and money-making opportunities (Elyachar 2005; Fawaz 2008; Klink, 2013; Jaglin 2014). Perhaps more importantly a long-honed capacity of such districts to live in close proximity to the poor and evolve forms of reciprocity and patronage increasingly became the target of political elites so as to drive a wedge between these relationships (Dill 2009; Datta 2012; Gago 2015). States frequently preyed on majority districts' fear of impoverishment, particularly as industrial and public sectors jobs started disappearing and various types of informal entrepreneurship were increasingly overcrowded. In some cities, ruling political machines stoked various forms of ethnic and religious conflict that upended long traditions of mutual accommodation (Weinstein 2013). In some cities the proliferation of violence or environmental danger generated mistrust and fears that local assets would be devalued. In various constellations of decline, in which different combinations of rent-seeking, maximised ground rent, local insecurities, weakening social ties were at work, residents of majority districts, both volitionally and involuntarily, sought to re-establish themselves in new areas of the city or in the apartment blocks proliferating across most Southern cities (Harms 2013; Zeiderman 2016).

With its long history of consolidating the "human" as a self-referential subject of history detached from long-chains of signification that come from the capacity to continuously translate the cognitive and behavioural operations of human life in terms of its interdependencies with other species and materials, the urban finds itself constantly in need of "salvation". The urban repeatedly calls for intervention; there is always a sense of urgency to address, a series of problems to solve. As a complex ecological machine, the urban, in its intricate interweaving of infrastructure, affect, materials, design, and bodies, nevertheless, enables the detachment of "the resident" as an individuated agency capable of endless improvement (Braun 2014; Amin 2015; Szeman 2015). Regardless of its dependency on archives of tertiary retention (Stiegler 2009), on technical capacities that are indifferent to the well-being of the organism, and on a cognitive assemblage that distributes capacities of calculation and decision-making beyond the realm of consciousness (Hansen 2012; Hayles 2016), the surfeit of arrogance underlying such privileged individuation (of human action and thought) can only decompose into a proliferation of divides and conflicts as such a process of "defacement" intensifies.

Spatialising efficacy

The cruel irony of contemporary urbanisation is that at the very moment that the implications of its histories become more and more visible as irrevocable inscriptions on the earth's geology, the individuation of the urban resident, the disentanglement of the majority from its relational economies and heterogeneous material environments is accelerated (Read 2016). The "reassignment" of residency to massive vertical complexes, the consignment of formal employment to short-term contracts and flexible labour, and increased valorisation of circulation and provisional social engagements acts to further individuate urban residents away from thick sociality.

Whereas social media and computation seem to elaborate new modalities of interconnectivity and recognition, these are intrinsically volatile operations demanding continuous updates, professions of sentiment, a display of like and dislikes, and a short-circuiting of memory, and thus a sense of meaning and continuity, that render residents always in state of heightened anxiety (Leszczynski 2016). Ensconced as environmental conditions, new forms of reflective

analysis – through sensors and recorders – continuously remake fields of attention and significance (Gabrys 2014). No longer equipped with the assurance of clear valences and collectively deliberated interpretive schema, individuals are less and less certain as to what factors are important in terms of generating a sense of self-efficacy. What is important to pay attention to or not? What is relevant to my situation or not? These questions are increasingly difficult to answer.

Efficacy seems, then, a matter of not excluding anything, of trying to consider as many variables as possible (Amoore and Piotuhk 2015). As these efforts overwhelm human cognition – for it is impossible to consider not only the relative weight of particular dynamics or variables on one's situation, let alone their subsequent distribution curves of cause and effect (MacKenzie 2015) – the importance of the technical increases, in that decisions can be made for us through algorithmic relations. Inclusions and dismissals then can become increasingly arbitrary (Thatcher et al. 2016). If one need not take specific others into consideration because one has conceded a fundamental inability to know who the other actually is in the larger scheme of things and their relative impact on one's life, then statements can be issued here and there with little need for verification.

Socialisation in a time without the need for verification, where persons can be objects of impressions and claims that need not be backed up with the weight of consensus or evidence, diminishes the operational space available for urban residents at precisely the moment where the possibilities for circulation are maximised and exigent. Within an urban era where success is contingent upon being at the right place at the right time, and where there are no clear maps or probabilities of where that place and time are located, then circulation is a necessity. It is also important not to be overly committed to particular locations and obligations, as these are impediments to circulation.

If the constitutive architecture of inclusive exclusion and exclusive inclusion – so fundamental to the territorialisation of urban life – become increasingly inoperable in the progressive defacement of human primacy, then what kinds of spatialisation are likely to ensue? If, for example, the vast zones of the urban poor, with their piecemeal and oscillating attachments to the larger metropolitan system, in terms of provisioning of services, citizenship, legality, and institutional participation, are no longer "required" as the living antithesis of that figure of the human, to which urban resources are mobilised in support, are these populations completely expendable?

If the surplus value of urban life—of its recursive and reflexive symbolic infrastructures—is decreasingly contingent on the dispossession of the poor, on the extraction of their contributions by force, by relegating them to a condition of sheer survival, then what? Considering Gautam Bhan's (2016) notion of "judicialisation," critical spatial interventions into the city take place via courts acting within their notion of the public interest, which tend to then see poor communities as illegitimate incursions on the public. The rights of these communities can then only be recognised in terms of their vulnerability, and not in terms of any contribution they make or rights they might enjoy as common citizens.

Pacification of struggle and resistance has largely been contingent upon the promise of inclusion, of the distribution of incremental improvements in livelihood, and relegating large numbers of urban residents to the labour-intensive processes of putting food on the table. The city, as a matrix of multiple conduits, pathways, voids, junctures, and blockages (Farias and Blok 2016), means that every attempt to precisely and comprehensively

segregate the poor from the rest are qualified by both unforeseen porosities and the inability to cut-off access altogether when the poor continue to provide a range of "essential" services. But as labour-intensive provisioning of all kinds diminishes and as impoverishment increases in the contraction of industrial labour and cheap service economies, it is possible to foresee an intensified Balkanisation of urban space.

A predominant strategy in addressing the prospects of a more *feral* urbanisation, of the poor increasingly unchained by labour and moving across the city in scavenging packs, are efforts to resettle the poor in permanent *houses* at some distance from the urban core and encumbering them with ownership through long term debt. As Gautam Bhan (2016) persuasively indicates, this transition from *housing* to the *house* results in a substantial contraction of the operational spaces available to the poor. The self-evolved *Basti* residents configured a built environment that facilitated collaborative effort and which also served as a platform on which to launch forays transversally across the larger urban surrounds. They gathered materials, information, and contacts that could be folded back into the ongoing development of the settlement.

So, the evictions from these settlements to the small flat in a cheaply constructed vertical complex are just one facet of a multiplicity of devices used to homogenise the individual and collective actions of the poor and standardise their status as political actors (Nuijten 2013). Coupled with the spread of surveillance technologies and the capacity to target "dangerous circulations," this shrinkage of social space is intended to immobilise the poor. But in this atrophying of their capacities to compensate for the absence of rights and viable livelihood through configuring conduits of movement across the city, of inserting themselves at key junctures to provide cheap labour and services, to collect waste and untended materials, what is being cultivated appears to be the intensification of the bodies of the poor as weapons, deployed in increasingly desperate acts (Valayden 2016).

Restoring the majority

Over the past decades, poor communities adopted many different forms of activism to draw attention to their situations, formed organisations and alliances with professional associations and non-governmental organisations, and registered marked success in improving the security of tenure through *in situ* upgrades, land-sharing, and more judicious compensation packages. They gained specific rights to services and citizenship status. But in most of these instances low-income re-sidents find themselves hedged into disciplinary regimens, inflexible built environments, minimal affordances, long commutes, and shrinking horizons of aspirations. Demonetisation in India, extrajudicial assassinations in the Philippines, to generalised criminality in Brazil are some of the many modalities of assaults on the capacity of the poor to operate outside increasingly standardised formats. Additionally, wider chasms have been engineered between low-income and majority residents, diminishing their familiarity with each other and undermining the forging of political alliances.

In some way, upper poor, working, and lower middle class residents are equivalently being corralled into so-called affordable housing in large-scale vertical complexes. In many cities across the South these are becoming the predominant forms of housing for the majority. Yet in these circumstances, the "majority" begins to lose much of its heuristic analytical quality. For I have invoked this term not to point to a clearly established demographic or social entity but rather as a mode of intersection whereby heterogeneous ways of life come together as a composite capable

of collective operations yet maintain differentiated fields of influence and activity. As residents are increasingly individuated in terms of their relationships with other residents of a given space and in terms of their operations within the larger urban system, the notion of a "majority" becomes increasingly meaningless.

Yet, it still may possibly be recouped even under the newly predominant circumstances of mass vertical living. First the development of such mega-complexes proceeds largely in a process of "hit and run." Often the land on which the complex is built has been acquired through temporary use rights. Units are often sold prior to construction and often on a speculative basis—whereby units are resold before the project is completed to avoid property taxes and where the subsequent buyers are often brokers who then parcel out these properties through various subcontracting arrangements. There are often many ambiguities in terms of what constitutes the unit of property or the definition of the acquired asset. Residents are often informed after the fact that property titles cannot be issued until all of the intended units of the project – such as those still waiting to be built – are sold, given the often opaque legal arrangements between the developer and owner of the land. Sometimes acquisition of an apartment unit does not include guaranteed access to the provision of water and electricity. What ensues is that in some of these complexes, given the plurality of leasing arrangements, entitling, and service contracts, residents pay a different price each month for what are otherwise equivalent units.

As the bulk of the units on offer measure from 36 to 42 square meters, the physical space does not correspond to the size of most of the households that end up acquiring them. In other words, the prevailing imaginary presumes the occupants to be an aspirant young middle class couple with one or two small children who will eventually proceed to move on somewhere else. But as these types of units are rapidly becoming the new norm, it is difficult to foresee where that elsewhere will be. As mortgage systems are often quite limited in many Southern cities, acquisition itself entails broad financial mobilisation. These include complex reciprocal borrowing arrangements among families and affiliates, profits from collectively generated economic activities, savings groups, the diversion and laundering of illicitly obtained money, advances on rental agreements for other properties, property swaps, or amenities packages for employees. The plurality of finance applied to the acquisition of units also translates into the heterogeneity of residential compositions. Sometimes residents related through various neighbourhood, institutional, or work connections will acquire entire floors in these buildings. While most buildings are prefabricated, limiting the physical adjustments that can be made, floors are indeed remade within these constraints in order to accommodate extended families.

What often ensues is the agglomeration of social differences that not only mirror the compositions of majority districts but also at times exceed them in the pluralities of household compositions at work. Given that the new environments are not contingent upon residents working out a wide range of both everyday residential and economic activities with each other, an atmosphere of anonymity prevails, reinforced by the sheer numbers of residents involved. Yet at the same time, this does not necessarily obviate opportunities for residents to pay attention to each other, to take note of each other and work out the allocation of niche spaces and the recalibration of floors and buildings to accommodate specific clusters of interests and identities. For example, in the *rusunami* (subsided lower middle income housing development) at Kalibata in Jakarta, one Muslim association acquired and now manages fifteen floors of apartment units in one building, while gay and lesbian residents are concentrated in the building next door. Just how such clustering

is curated is a process that has taken place in less than three years and largely facilitated by the diversity of operative brokerage.

What unites different kinds of residents of these complexes is the tendency for them not to consider this place as a "home," at least in the sense that is culturally syntonic to what they have known in the past. The stability of home itself, at least in Jakarta, is something that is slowly diminishing as an overarching value in favour of the importance of circulation, of being able to spread out across various provisional affiliations that are no longer locally based. In this way, one could look at these complexes in Jakarta as the mostly "silent" contestations among various kinds of residents and lifestyles (Islamic, LGBT, young professionals, nascent (barely) middle class families, immigrants, sex workers) for control over floors in specific buildings, so segments, clusters emerge. Yet, the densities of living-*with* ensure circulations of stories, rumours, and information. There are so many variations of people passing through, staying long, coming in and out, that it is never really clear who is who, what is what.

In this way such vertical complexes, as a generic form, act as a means of compression—an arena that has no particular definition, something that can show up in various formats without contradiction, that does not have to be realised empirically according to specific criteria, but which engenders a sense of being-in-concert. Here, many different trajectories and futures are compressed in a generic form that does not allow a definitive sense of the differentiation of its components, where many different ways of doing things are at work, but where it is not possible to clearly distinguish amongst them. As such, new forms of opacity are generated that may enable residents to conduct a wide range of lives under the radar.

The trajectories of external movement engaged by residents cut across a wide range of territories and institutions in Jakarta—evidence of which then loops back to the complex, that can be "mined" by others. These contexts are less the curating of an "inside" than a collective penetration and cultivation of a "larger surrounds." It is here that the notion of a "majority" might remain salient under new conditions and forms. From *Whatsapp* groups formed on the basis of a wide range of historically shared experiences, such as having had the same fifth grade class or having worked at the same factory a decade ago, to short-lived thematic support groups, to those arbitrarily formed online or through chance meeting in restaurants, residents zoom in and out of various associational experiences without having specific agendas or interests to articulate or defend. The seemingly faceless and massive landscapes of vertical residence constituting new peripheries of the urban make up a database. Who uses it and how, remain critical political questions.

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Bio

AbdouMaliq Simone is presently Research Professor at the Max Planck Institute for the Study of Religious and Ethnic Diversity, Visiting Professor of Sociology, Goldsmiths College, University of London and Visiting Professor of Urban Studies at the African Centre for Cities, University of Cape Town. Key publications include, *In Whose Image: Political Islam and Urban Practices in Sudan*, University of Chicago Press, 1994, *For the City Yet to Come: Urban Change in Four African Cities*, Duke University Press, 2004, and *City Life from Jakarta to Dakar: Movements at the Crossroads*, Routledge, 2009, *Jakarta: Drawing the City Near*, University of Minnesota Press, 2014, *New Urban Worlds: Inhabiting Dissonant Times, Polity* (with Edgar Pieterse), and the forthcoming, *Improvised Lives: Rhythms of Endurance in an Urban South* (Polity).

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008

Visual Soliloquy the Anti-Social of Design

Marko Stanojevic

136–151

Visual Soliloquy contributes to the discussion of how graphic and information design contributes to social through design. In linking the work to notions as self-branding, micro celebrities and self-branding in defining social value for individuals. The use of the soliloquy concept is aligned with both the anti-social undertaking and social endeavor of design as praxis within the field of communication design. As evidence, the concept is supported through examples of design work and their material explorations.

#Anti-Social

#Soliloquy

#Branding

#Self

#Logo

Visual Soliloquy

'soliloquy'

An act of speaking one's thoughts aloud when by oneself or regardless of any hearers, especially by a character in a play.

Origins, Middle English, from late Latin soliloquium, *from Latin* solus *menaing 'alone' and* loqui *menaing to 'speak'.*

(Oxford Dictionary Online 2017)

Branding as the self

Self-branding and the creation of micro-celebrities, have become a popular marketing tool through a number of social platforms during the last decade alone (Page 2012), yet Allessandro Gandini (2016) postulates the continued misunderstanding of the mere extent to which self-branding recounts for social relationships in the making of *socialised value for individuals*. As a proactive approach, designers need to pre-emptively strategise and favorably position themselves by treating oneself as a project or as a brand through a set of tangible and intangible values and, from a market's point of view, try to become an object of desire. This is exactly what, for example, product designers aim for when they design with a new product, whereas the product in this case refers to designers themselves (Labrecque, et al. 2011).

In most instances, visual and graphic design requires professional designers to internalise the social through their continued search for difference or distinction from the expanding design market. For the outcome to work properly it ought to be authentic, truthful, deeply personal, and self-satisfying form of *visual confession,* or an expression of an inner monologue translated to shapes and lines (see Brown et al. 2014).

As an authentic internal quest, soliloquy searches beyond the obvious skills, beliefs, traits or passions that designers share. This is because belonging to a group inherently carries a number of shared qualities that define it. Mimicry of these values, clearly does not suffice to differentiate oneself since these values often mature into shared commonalities. They long became firmly positioned axioms that negate the need of further definition, explanation, debate, perusal, or any requirement that further seeks approval within any given context. As statements, soliloquy needs to surpass them.

Contemporary designers advocate self-promotion, which is radically different from prior generations.[1] We currently find ourselves in a very complex and *inconsistent* reality with many possible futures, singular or in terms of parallel forms of existence, convoluted with competing voices thanks to social media and digital platforms. More specifically, the practice of designers in the future will unavoidably become a somewhat *over-saturated* condition based on the mere number of designers. The continued effort in the search for differentiation, within oneself and in terms of how the self is positioned against the *other*, in a curiosity-invoking yet susceptible manner to wider audiences, remains a key concern.

Soliloquy, the inner social of design

The visualisation of this *inner monologue* and the challenges put forward by the design of a personal *logotype*,[2] capture the essence of such a process by materialising the soliloquy. With the usual criteria required for a logo design, in its readability, recognisability, memorability, and

originality remaining valid, each monologue, which varies case-by-case, prioritises personal relevance as defined by each *inverted* monologue.

The specific requirements of a logo design include: a) *the technical layer*, which refers to a logo's usability and ease of its application in various situations; b) *a communicative layer,* which describes the relevance of the story that is being told, and whether or not the communicated message aligns with its perception); and c) *the aesthetical layer* articulates the appropriateness of logo appearance and sophistication of its execution. The ultimate test of each soliloquy remains how this inner world finds expression within a designer's context. Each designer has a creative license to prioritise. To lean towards one of these three aspects that are judged most relevant for a particular design direction is achieved by striking a balance between the other two aspects in a possible compromise. On another level, particularly relevant in the applied arts, the creator ultimately needs to be able to move away from himself and take into account how the product will be perceived from the outside, in order to objectively evaluate the outcome, which is a challenge when working on something personal.

On one hand, the premise of the soliloquy remains a process to effectively talk to oneself, and fundamentally define an anti-social undertaking. On the other hand, the necessity for the visual outcomes to be comprehensible to a wider audience renders the soliloquy a social endeavor. Communication design, and its core activity of branding and logo design, requires such complexities of expression from within the designer's mind-set. The imperative therefore remains to facilitate the expression of creative processes and to streamline a particular design from within the designer's flux, exaggeration, and sometimes confusion.

The visual outcome of a logo design is a few lines or solid surfaces that force the development of a product into a minimal state. As a process, to externalise inner monologues leaves no visual or material dissonance as camouflage or shelter. The soliloquy remains a creative expression that delivers complexity in a simple way, and thus negates any opportunity for *fake* reasoning.

The *Visual Soliloquy* collection represents a body of student work consisting of sixteen personal logotypes. In the design for *Give and Take* (Fig. 1), the author (KWAN Ming Sum Sam 2017) initially uses + and – signs as an obvious metaphor that refers to the processes of addition and subtraction. The plus sign represents added value, and mirrors the designer's role to designate functional and/or emotional values into his creations. Still, when the designer strives to create meaningful designs, excessive, unprovoked elements, also require recognition, even later subtracted from the overall design. The use of the minus sign in this design context embodies a negative space as balance between *full* and *void* spaces.

Play n' Pause (Fig. 2) by KWAN Siu Hei Lewis (2017) represents the balance between reflection and execution, learning and doing. The interplay between positive and negative masses connects all elements, and emphasises the intertwined linkages between each component with one another. In addition, the use of the play button can be interpreted literally as an invitation to *play*, which conceptually addresses the activity of freely exploring, and is part and parcel to the creative act of learning.[3]

Missing Piece (Fig. 3) by HUNG Yuen Ching Chelsey (2017) gives significance to negative space and is a resourceful design at its core. Its key aspects are a universal acceptance of a symbol and its blunt application. The ingenuity lies in what is missing. The letters *C* and *H* present the designer's initials,

where the *H* is the core aspect of the design. Closer scrutiny indicates the empty space to the left, where the missing *C* is to be found. This strategy offsets the visual balance of the logo from its expected center of gravity, since the *non-existing* half needs to be taken into consideration just as much as the *existing* portion in use to the right. The lack of immediate readability makes it all the worthier for observers to decode, making the puzzle complete in the discovery of the hidden values. This particular soliloquy is noteworthy in its fulfilment of two mandatory factors: a) the technical and communicative layers are obviously present; b) the aesthetical layer is completely absent and disregarded as a conscious choice. The audacious, bold manner in which this is done is why the message is carried across with success. As a result, the inner statement appears effortless and confident in true breach of basic design guidelines.

Watch It (*Fig. 4*) by NGAI Tsz Lam Jocelyn (2017) appears somewhat simplified and opportune at first glance, with the application of the author's initials in the design. However, the message is about observation. What makes it stand out is a different execution that harnesses the letters *J* and *N* to represent an object to the bottom left, and a person to the right. In the latter case, the person bows down in curiosity to observe an object. This clever positioning enables the author to tell an unpretentious narrative, and satisfy all three prerequisites of the design discourse.

From a different angle, the execution of *Flow* (*Fig. 5*) by HUI Yat Ching Amy (2017) addresses the streaming of choices and connections within an intertwined design. The logo's construction from the author's name represents a hybrid of free-flowing calligraphy and controlled geometric shapes. In this sense, the combination of craft and industrial precision delivers an alternative aesthetic to the branding process. Thin line slashes appear as delicate and careful choices, with thick wavy strokes signifying strong and courageous instances of decision making.

In summary, in each instance, the soliloquy remains both material and immaterial, abstract and concrete. What is more, especially relevant for design, although the premise of the process remains internalised, anti-social as it where, the mere act of materialisation remains social. Social in the transformation from an inner state into a material form that remains a social process in its own right.

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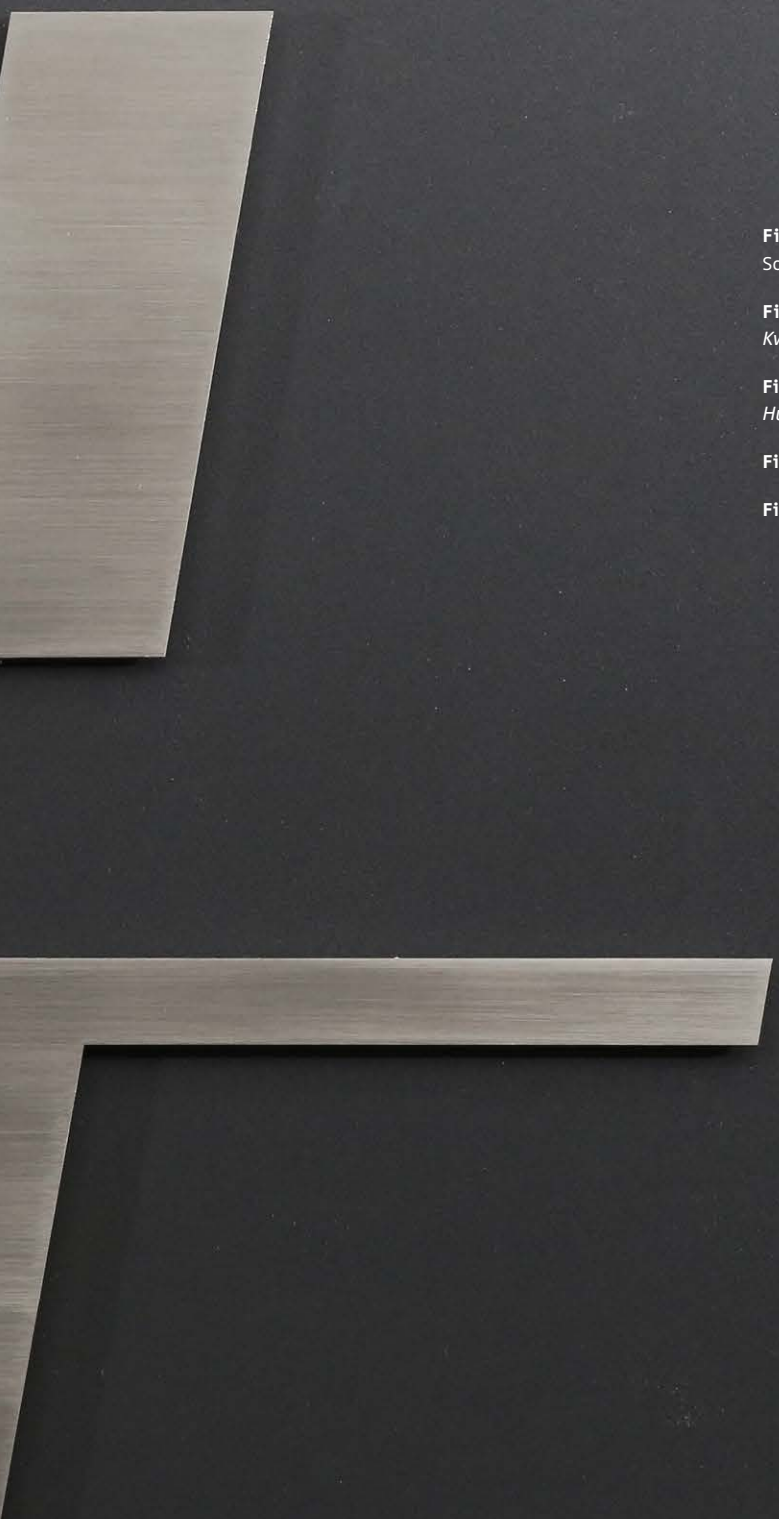


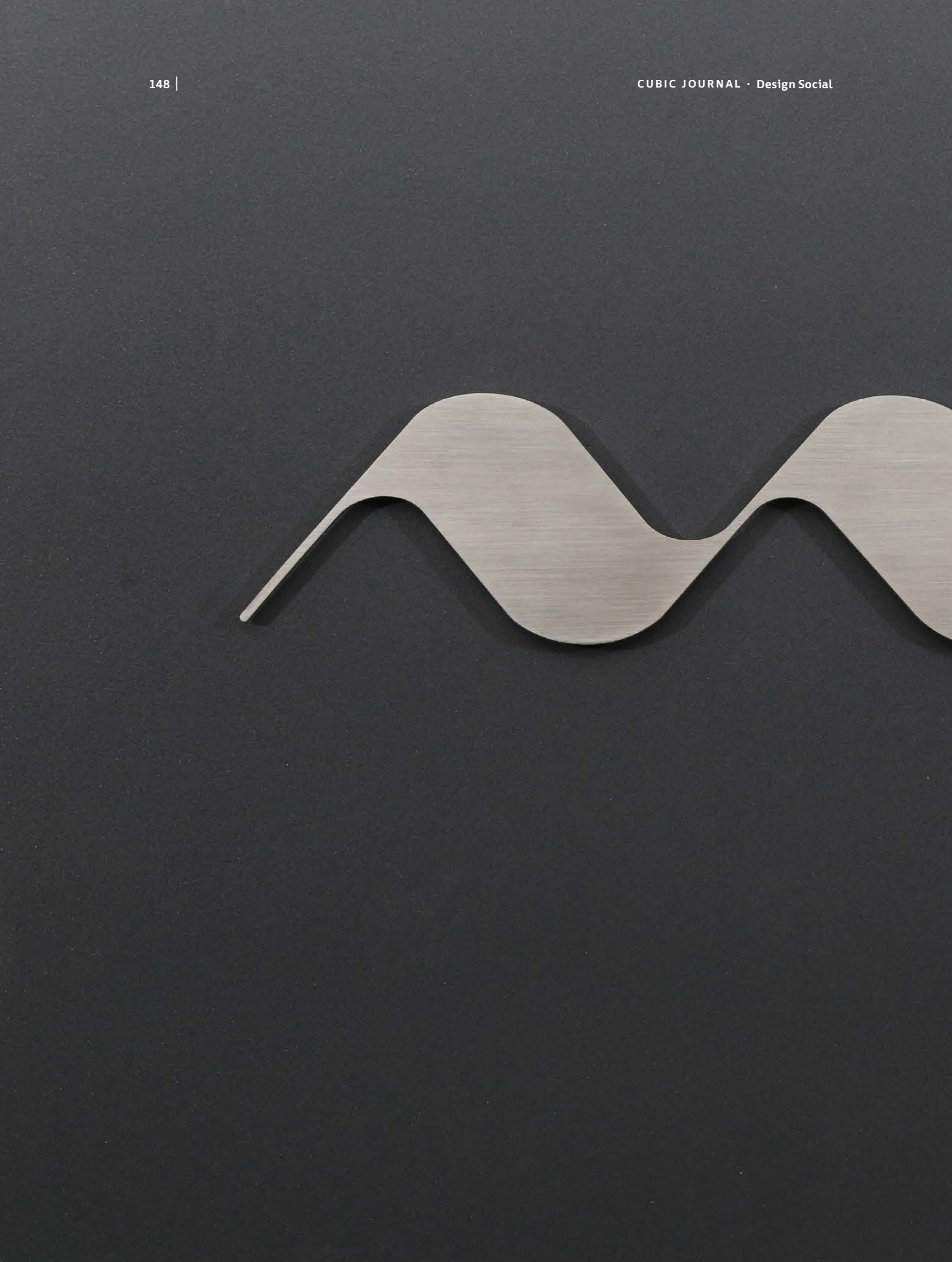
Figure 1 (this page and opposite page): Give and Take. Source: *Sam Kwan.*

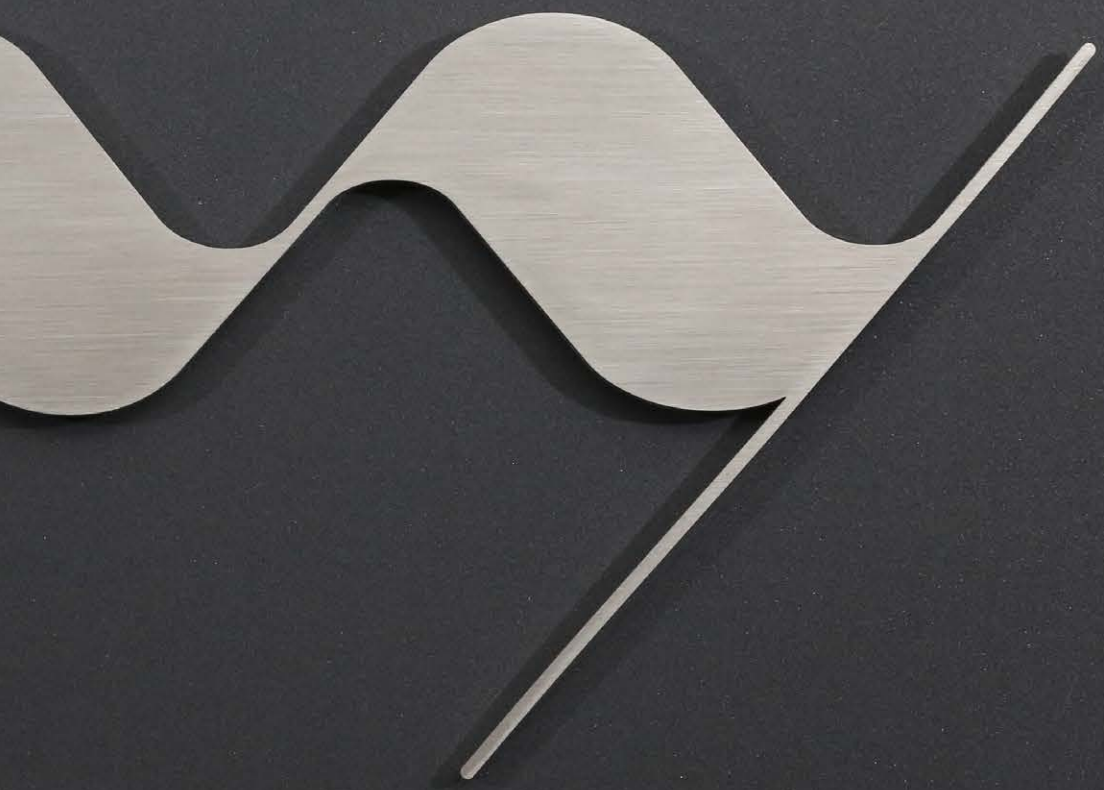
Figure 2 (pages 142 - 143): Play n' Pause. Source: *Lewis Kwan.*

Figure 3 (pages 144 - 145): Missing Piece. Source: *Chelsey Hung.*

Figure 4 (pages 146 - 147): Watch it. Source: *Jocelyn Ngai.*

Figure 5 (pages 148 - 149): Flow. Source: *Amy Hui.*





Notes

1. See Davis Marshalls (2010) argument of self-promotion and the influence of social media in creating a generation of self-promotion ethics.

2. A *logotype* is defined as a single 'type' that represents a logo, individual word or group of letters. Examples here include *Facebook* or *CocaCola's* iconic logos.

3. See: *The Man Who Plays,* Johan Huizinga, 1998, as a key resource for the playfulness of discovery and its relation to educational practices.

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Bio

Marko Stanojevic is a product designer who also branched off into the fields of graphic design, branding, and product-service system design. He runs Bureau Zero, based on more than twenty years of professional experience in Europe. He is currently a Lecturer in the School of Design, of The Hong Kong Polytechnic University, and a teaching fellow at The Hong Kong Design Institute, specialising in product and communication design. His approach to design is multidisciplinary, and combines mixed design theory with practice, which in time, has led to commonalities and differences within the creative processes as well as a more complex understanding to design. His current interests focus on non-lingual narration, message transferences, and the creation of appropriate communication across disciplinary entrenchment.

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009

Activating Design Social

Peter Hasdell

152–171

Does the social turn in design enable transformative change in design and society? Or is it incremental change, where design confirms existing social systems with little impact? Many claims for design social have been made, often underpinned by the altruism of doing good and social engagement. The recent popularity of social design, design activism, service design, co-design, and commoning, show design as conjoined to other disciplines, but to what end? What role does design play within dialogical pairings? Does the socialising of design diffuse the agency of design to the social sciences? As we interrogate and define, conceptually and in praxis, the hybridisation of two different domains, there is a need to critically engage the question of how to define ways in which design social can become an impactful, rather simply than a consensual, confirmation. In addition this enquiry is to seek out how design social can lead to transformative moments within design practice that impacts design methodologies, social structures and its agencies.

#Anti-Social

#Kitchen

#China

#*Miaoxia*

Towards a praxis of 'social design'

Social design is the conjunction of two distinct terms and different domains, one pertaining to the social and the other to the world of design and its artifacts. In practice, *social design* is often deemed to be a design process embedded within a social context, with a commonly accepted mode of operation being a consensual design outcome, rather than on the development of outcomes embedded in a social context that impact both fields. Additionally, we can further note that the retrospective over-simplification of the social and materialisation interactions when viewed through the lens of the final outcome is prevalent. Therefore, it is clear for many critical researchers that design understood as a purely consensual process may result in an ineffectual lowest acceptable outcome approach. This "least offensive" outcome is one that usually leads to incremental improvement rather than being a transformative outcome. This is a critical and important distinction, as it parses between "system improving" (social learning and actualisation) and "system transforming" (social mobilisation and social innovation). Similarly we note that the consensual process or path of least resistance in *participatory design* – commonly employed by *social design* practices, for instance – has been characterised as the "nightmare" of *participatory design* processes. Markus Miessen (2010) argues that consensual *participatory design* is in effect useless, as it maintains the status quo. He further outlines that the complex negotiations, conflicts, and their subsequent resolution and tensions between different forms and domains of knowledge are in fact the critical processes and moments that lead to paradigm shifts and innovations in design. In *social design*, these moments would therefore test – through praxis – the boundaries and limits of design-related knowledge in relation to the social body or to social practices, and therefore would have a higher possibility of "system transforming" outcomes that are better positioned to contribute to, or catalyse, active transformations that go beyond the superficial.

Meissen's contestations have their roots in Chantal Mouffe's (2005) writings on the valence of antagonism and the political. Mouffe, after Hannah Arendt, outlines an inherently political process that engages the ontology of agonistic practices and seeks to define processes of a politic of agonistic pluralism rather than consensual agreement. She calls into question the effectiveness of consensus-driven approaches to planning (politics) that regard this approach as normative. Antagonism, contestation, different points of view and any agonistic encounter however are always a part of social relations. For consensual or agreement politics this is seen as a threat to the existing social order, whilst for the politics of change this constitutes a necessary risk. For Mouffe, conflicts occur at the boundaries of discourse where divergent points of view or ideologies can be found, where these overlap or contest with other entities for example, antagonism may occur. An agonistic approach is therefore more able to deal with difference and conflict. Further noting that an agonistic process is always in the process of definition and change, it allows for the inclusion of diversity and difference within, but at the same time it outlines how pluralism cannot ever account for all differences; therefore participation "must also enable the expression of conflict, which requires that citizens genuinely have the possibility of choosing between real alternatives" (Mouffe 2014). She goes on to say that the inherent and pervasive indeterminacy of social order necessitates the need for "sedimented hegemonic practices" that "conceal the originary acts of their contingent political institution and that appear to proceed from a natural order." These "contingent practices" maintain their hegemonic order by excluding other possibilities for that social order. Changes to this order constitute threats to that

hegemony and, by implication, to the social structures it embodies. Incremental change in such a context, although an indication of the tolerance or resilience of its social structures, can never intrinsically disrupt the "sedimented hegemony." Using Mouffe's logic, it can therefore be understood that any *social design* processes that operate on a consensual paradigm cannot and will not become agonistically political in such social ordering systems, as they neither challenge the boundaries of the social order nor its internal constitution, but are instead a part of incremental social transformation. The field of design activism – at least in part – may be less of a "contingent practice," and conceptually operates, perhaps, with the intent to initiate change through action, which enables a more agonistic type of practice to occur.

This goes to the heart of a critical distinction between *design social* and design activism that Alastair Faud-Luke (2015) outlined. By situating socio-political design practices on a spectrum that ranges from agreement to agonism to antagonism, it allows the placement of *social design* in his schema as between agreement (consensual) and agonism, whereas *design activism* is more likely to be found between agonism and antagonism. As such, *design activism* "contests the paradigmatic" coupling of *design social's* representative community and engages the participatory community of the agonist society and agendas that may "disrupt habitus." Conversely, *social design* is framed in "representative democracy, entrepreneurial logic, diagnostic framing" and by the predetermined paradigm of "public and social good: Consequently, it is difficult to see how it can offer more than incremental innovation to pressing social needs." *Design activism* reconfigures these relationships and the pre-existing social structures, and therefore has more substantial impacts that can transform the social. Faud-Luke further elaborates the notions of consensus and dissensus in these two approaches. Whereas *social design* gathers consensus within the existing social relations, *dissensus* will more likely occur "in dialogue, not in the actions or materialisations of design(-ing)," and its compliance with the normative cultural practices and language. *Design activism* conversely uses practices designed to antagonise and to generate conditions of contestation such that agonism may be regarded as a form of agency directed towards challenging "our existing social 'material and expressive assemblages' … as a means to imagine and enact social change in everyday life practices." Whilst referencing *design activism's* intent, Faud-Luke, in making the distinction between *social design* and *design activism* polarises these, in application and praxis there may well be instances where this distinction is more blurred and less polemical, whilst procedurally engaging both agonistic and agreement practices in the development of the design outcomes. Design is ultimately synergistic, and all design has some relation to the social.

The construction of 'thingness'

Further, it is useful to circumscribe factors that critically contribute to the formulation of *social design* and *design activism* and to extricate possible modalities. Drawing both from the extended domain of the social sciences that includes critical positioning that draws from social and cultural anthropology, ethnography, and philosophy, as well as from the expanded field of design, its processes and relations to the social. As a preface, we can consider the original meaning of the word *thing* as assembly, meaning socius, a place, and the process of assembling. Additionally this refers to a collectively agreed object contested and defined by the social body or community in that assembly. In essence the *thing* in this ancient context is an outcome from a fundamentally agonistic and social, if not

political, process. *Thing,* rather than being an anodyne word, is potent with signification. As Erling Bjögvinsson, Pelle Ehn and Per-Anders Hillgren (2012) outline in their research on *participatory design* methodology, we should move from a conventional understanding of designing *things* (objects) towards designing *Things* with a capital "T". In part drawing from Martin Heidegger's (1967) seminal reflection on "thingness," they reconsider the etymological meaning of *Thing* as (public) assembly or public space taking place at a certain time and place. Derived from ancient Nordic and Germanic roots, *Thing* describes not only the object, but also social context and gathering place; society's participation in these gathering places and their purpose as common places where disputes were resolved or where negotiations and even conflicts took place between the social (belief) and the material worlds. A *Thing,* therefore, can be understood as the gathering of social and material properties and attributes, and it is also a gathering of people and artifacts designed in a common framework.

In other words, "*Thingness*" is very closely allied to the concept of *socio-material assembly* posited by Bruno Latour (1999). This concept Latour characterises as "a collective of humans and non-humans;" whereby the collective gathers social and material (artifact) relations within an assembly that is closer perhaps to a contemporary form of ethnography *(Fig. 1)*. As part of this collective condition, our participation, gathering, and engagement in the material world form a series of complex and dynamic interactions. The *socio-material assembly* can be seen as a subset or relative of Latour's notion of the *quasi-object* (1991), as a class of entities that do not exclusively belong to one knowledge domain but instead describes the relations between the social and its objectified production (design for instance). The quasi-objects are neither just objects nor just social relations or subject, and therefore assume a kind of codetermination between the social subject and the objectified as its foundation. In design terms, the *socio-material assembly,* like the extended understanding of *Things,* shifts emphasis from the conventional understanding of *social design* towards the non-hierarchical performative or relational. Distinct from more conventional approaches, this has the capacity to build in uncertainty and unexpected outcomes, or perhaps indeterminacy and risk into the process that could lead to system transformation as well as social mobilisation and innovation.

Latour further elaborates the quasi-object in *We Have Never Been Modern* (1991) as a necessary extension of his theory (really this is a manifesto) of the *parliament of things*. He argues that the dualism and dialectic structural classifications between subject and object, on the one hand, and between nature (science) and culture (politics) on the other, belong to the modern era. He contests that this dualism is false in its premise. The constitution of the *parliament of things* would instead define "humans and non-humans, their properties and their relations, their abilities and their groupings" as various hybrids. He argues that modernity to a large part has not dealt well with the hybrid conditions that might be subject and object at the same time, the modern constitution thus generates for "… the expanded proliferation of the hybrids whose existence, whose very possibility, it denies." The Parliament of Things would therefore allow for the "meticulous sorting of quasi-objects to become possible … [within which] … the continuity of the collective is reconfigured … Natures are present, but with their representatives, scientists who speak in their name. Societies are present, but with the objects that have been serving as their ballast from time immemorial." Bennet (2010) in *Vibrant Matter* furthers Latour's theoretical concepts by situating the issue of quasi-objects within a political-ecological framework that raises questions concerning our material existence. She

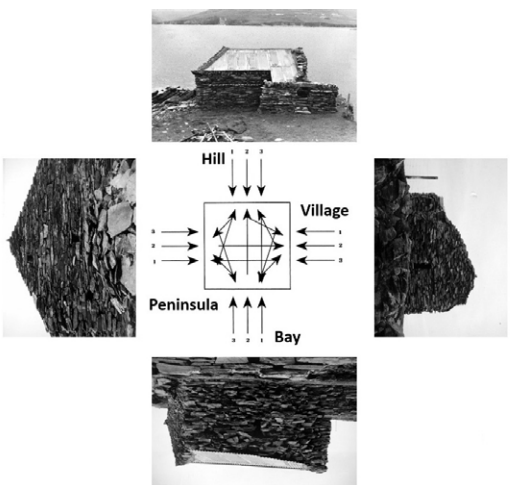

Figure 1 (this page, top): In both *Miaoxia* community projects, a pig "thing" was slaughtered on the morning of the inauguration, carried to the village temple and then to the buildings, before being butchered and served up at the village feast. Source: *Author.*

Figure 2 (this page, bottom): Stonehouse schema and list of things and demands. Source: Author.

Figure 3 (pages 157, top): *Miaoxia* community kitchen built in 2015 (foreground) and guesthouse (background) finished in 2017. Source: *Author.*

Figure 4 (pages 157, bottom): *Miaoxia* community kitchen. Source: *Author.*

discusses how to engage a "vitality of matter" with respect to moving our socio-cultural trajectory towards ideas of ecology. Using notions of "actant" from Latour, and drawing on concepts of the vitality and "thingness" or "thing-power," she references agency and the ideas of assemblage by Gilles Deleuze and Félix Guattari where "The locus of agency is always a human-nonhuman working group." In politicising matter, she effaces the dichotomies between the organic and inorganic, life and matter, and the animate-inanimate and argues for the endorsement of a "definition of politics as a political ecology and a notion of publics as human-nonhuman collectives that are provoked into existence by a shared experience." The unstated implications of this are that design and its social milieu, be it in the process of designing or the impacts of design beyond its inception, can be conceptually and practically understood as an ecology in and of itself. Design understood in relation to its social context needs to be intrinsically connected to the social process as a type of design ecology (Tilder 2009), for instance, or a complex mesh of tangible and intangible factors, social forms and networks, information and interconnections of contexts and people. Therefore the politics of change and of materialising this change are inescapable, but are as yet ineffective, or at best latent within most approaches to *social design*, despite the intentionality of the designer. From both Faud-Luke and Latour, it can be deduced that the significant intent of *design activism* and the *parliament of things* is akin to *social innovation*. In other words, its imperative is to be able to effect social transformation through design itself.

"Stonehouse", a social and physical construction in the Shetland Islands, was a ten-day workshop in 1993 made with forty participants under our tutelage.[1] Four different groups of participants constructed identities and embodied these within the dynamic process of the construction of a stone house. Each group was responsible for the construction of one wall and for negotiating relationships with all other groups. Neither designs nor plans were given at the start, and no sole designer was responsible. Instead, design was reconfigured as a relational process whereby the form and outcome of the house resulted from the negotiations, contestations, dynamics, and social relations between the groups that occurred during the construction process. The dialogical process and the continual articulation through multiple negotiations was essential, such that the building of a social construct was inextricably connected with the building of the house and the finished construction registered the conflicts, agreements, and social relations of the groups.

To affect this, we initiated the following framework: Firstly the division of participants into four groups that reflected four typical environmental aspects of settlement and landscape. Secondly, we initiated a totemic system of "things," where each "thing" identified conditions representative of the group and their context to use later, to issue "demands" *(Fig. 2)*. Thirdly, each group was able to "project" their design agenda for the house by making "demands," or in other words, instructions based on the qualities of a "thing" on another group during the construction process. Periodically a "demand" was formulated by each group and issued to another group. The receiving group had to implement the demands, and in turn could issue demands to other groups. The things and the demands did not dictate form, but prescribed relations, functions or possibilities and, in some cases, simply antagonised another group.

The strength or weakness of the resulting stonehouse and its articulations, for instance corners, windows, doors and other features, reflects the nature of the relationships between groups. A strong, well-constructed corner represents the good social relations between groups, and conversely, the poorly constructed corner is the outcome of group conflicts and disagreements.

Figure 5 (page 158, top): Outdoor cinema screenings, *Miaoxia*, summer 2017. Source: *Author.*

Figure 6 (page 158, bottom): *Miaoxia* community guesthouse construction process. Source: *Author.*

Figure 7 (this page): *Miaoxia* community guesthouse carpentry work. Source: *Author.*

Figure 8 (opposite): *Miaoxia* community guesthouse view of bathroom with library above. Source: *Author.*

As a crystallised outcome, this meant that the coherence or fragility of parts of the stonehouse manifested the relationships between groups and the social construct they engendered. The finished stonehouse and its details are thereby a record of the negotiations of differences and these dialogues, and the house as an emergent result, reveals the resolution of tensions annealed in stone.

The claim here is that *social design,* and perhaps all design, need to be understood as a "relational" design process (Ehn 2008) that connects social context, socio-material implications, and their associated bodies of knowledge in the design process. This needs to impact both social structures and design processes. Ehn elaborates that this process necessarily needs to consider, before and after the normative design cycle, the "design before design" and the "design after design," as outlined by Björgvinsson et al. (2012), and not as a process of "projecting," but as a process of *infrastructuring* that allows for the continuation of the *socio-material assembly* before and beyond the design cycle itself. *Infrastructuring* thus positions the notion of design and its impacts, use, and evaluation within a social context. In effect, this extends the conceptual framework of design beyond the specific outcome and finished product of the design or design process itself. It can be noted that this is increasingly the case for specific types of artifacts, such as mobile devices in today's context, that are defining new forms of socio-design ecosystems and new practices. A viable re-evaluation of *social design* conceptual frameworks and methodologies therefore repositions it within complex social processes (Hasdell 2016), in which design outcomes become the formation of *socio-material assemblies*, constructed within a dynamic, changing, or active context. Feedback within these systems and practices is essential.

Social design activism or design in a social context?

In search of new practices that span between *design social* and design activism, the author conducted a number of collaborative research projects in the village of *Miaoxia* in rural Sichuan, Peoples Republic of China. This involved two disciplines, the Applied Social Sciences and Spatial Design, and their related research methodologies. The team utilised *action research* that provided the "software" as community engagement and social organisation, and design, which provided the "hardware" outcomes through *participatory design* processes. As designed outcomes, this resulted in community projects that initiated and activated physical and social change, if not innovation, which enabled villagers to develop new social systems and collective organisations that radically restructured the ways they live. The repositioning of design within dynamic social processes, as a *socio-material assembly* or as design *together* with its social changes, expanded the agency of design in this context. These projects are a fusion of social design and design activism, which engaged *consensus and dissensus* at various times in their development. Further, it can be contested that they embody properties towards a kind of ethnographic *Thingness* as they are deeply rooted within cultural practice, but also carry with them the seeds of new ideas, relations, and systems that are new modalities negotiated with, and in the context of, the village assembly. That is, they belong and are alien to the village at the same time.

To contextualise the work in *Miaoxia*, it can be seen that rural community development remains a critical issue in China's ongoing socio-spatial transformation. In recent decades the rural village has been impacted by transformations in socio-cultural systems and economic shifts.

This is evident in the increasing patchwork suburbanisation of the rural environment and loss of farmable lands (Guldin 1997), as well in the corporatisation of agriculture, the dilapidation and depopulation of villages, and the loss of agrarian practices and skill sets. Depopulation, for instance, goes hand-in-hand with the massive rural-urban migration and the development of urban villages in cities elsewhere, which is inextricably coupled with the increase in left-behind children whose parents have sought employment in other provinces (Friedman 2005; Lin 2009; Xuefei 2013). For instance, there are an estimated 60 million left-behind children in China out of the 600 million rural populations. The quarter century of modernisation of China has clearly impacted local economic well-being, social systems, and development in rural areas. This was recognised under the policy of Construction of New Socialist Countryside that arose from the 11th Five-Year Plan (2006-10), which addressed accrued imbalances from previous plans. In particular, it identified rising rural inequality, the need for a new economic framework, revised tax and subsidies, provision of community services, education, and for sustainable development approaches. Since this policy was affected there have been few tangible benefits other than improved roads. The suburbanisation of village farmlands continues unabated, and the hollowing out and left behind children still exist, if at a slightly slower rate than previously. In *Miaoxia,* as in many other villages, most working age adults have left to seek employment in cities elsewhere. The remaining villagers include around 200 left-behind elderly and 75 left-behind children. This aging community and its physical environs have become dilapidated, with substandard living conditions. The village houses and facilities accordingly suffer numerous problems that include poor sanitation, poor hygienic conditions, lack of public space, and very little social or economic provision.

For *Miaoxia,* design was used to activate change to the current state of the village with little means to maintain its former agrarian practices that were disrupted by earthquakes, together with aging, hollowing-out, and decline. The resulting design and implementation of a community kitchen, and a later community guesthouse, enabled the development of social enterprises that extended the village's capability for revenue generation through cultural festivals and community events. These new systems, run by a cooperative group of elderly villagers, provoke and activate untapped village capabilities to deal with economic decline, thereby activating change in social, economic, and environmental organisation of the village. Consequently, a transformation from cultivation to culturation is in the process of occurring, in which agrarian values and village cohesion is maintained and strengthened. More significantly, although they can be seen as *social design*, both new initiatives are, in effect, forms of design activism that instigate social transformation in the village and its social and economic systems, as well as its forms of governance and servicing. They are unavoidably political in their nature, and rather than consensual (although parts of their design process were clearly consensual) are generally agonistic in operation, practice, and context, and are underpinned by strong family ties.

Conflict of design or the design of conflict?

The *Miaoxia* projects aligned both social and physical outcomes in ways that do not privilege one over the other. Notionally, the *action research* facilitated the negotiation and restructuring of dormant social engagements into social enterprises through shared and mutually beneficial outcomes, whilst the *participatory design* enabled stakeholder engagement with the design, construction, and project realisation pro-

cesses. However, in practice, as evidenced by key moments in the design processes, the negotiations and contestations that arose at key moments both activated by the designers and evidenced within the process are messy and complex. Consensus can quickly shift to dissensus. Utilising *participatory design* processes as a framework to engage, it became apparent in *Miaoxia* that this methodology facilitates but has its limitations. Even given that the current tendency in *participatory design* shifts emphasis from the user as a "carrier of needs and problems" to an active design member who is a "non-design expert" with local knowledge, skills, organisational capabilities, and entrepreneurship. As the design researchers' roles adjust to become facilitators of specific design knowledge transfer processes and in this reformulation, design is understood as a contextual practice that engages creative communities working "in an economy of reciprocity" (Janzer and Weinstein 2014). Such *participatory design* projects can potentially generate design outcomes involving social innovation in which social enterprise and knowledge transfer can become the strategic directives and motivation to instigate and drive social change through design. This process can indicate a convergence of *participatory design* and *social design* and lead to possible extended definitions of *participatory design* as a "constellation of design initiatives aiming at the construction of socio-material assemblies where social innovation can take place" (Manzini and Rizzo 2011). However, in practice this is insufficient by itself and risks remaining in the consensual *social design* paradigm trap becoming merely an outcome of a social process (Miessen 2011). Clearly in *Miaoxia* the process of designing community projects cannot be disengaged from either the social enterprise that provides the software or from intangible, but significant, factors such as the increased village cohesion that resulted from the project process. But what distinguishes these projects in *Miaoxia* from remaining in the incremental change approach of social design is their transformative engagement with the social and the economic. In other words, they activated social change and opened possibilities for social innovation in the village.

Likewise, recent developments in *action research* put greater emphasis on social enterprise, development of new social forms and organisations, concordant with wider societal changes. These help move the conceptual focus from a reflective practice towards a projective one, but one which is embedded in a social context. The method used in *Miaoxia* was *participatory action research* (PAR), which has been used by community workers to strengthen and support the capacity of communities to grow and change (McTaggart 1996; Zuber-Skerritt 1996). Within *Miaoxia* this was effected by having social workers embedded in the village who live, work and research, but as well initiate, facilitate, and become very active members of the community, helping to initiate social change and organisation. Whilst *action research* emphasises activist participation as "communities of inquiry and action," that evolve as the community of co-researchers grows or changes (Reason and Bradbury 2008), the capacity to evolve is generally absent from *participatory design* approaches that are not well equipped to evaluate impacts and social change after the "design process" is concluded. Within a design context, the reflective practices developed within *action research* often engage the projective practices of *participatory design* as an "oscillation" between "knowledge generation and critical informed reflection" (Froth and Axup 2006; Schon 1983; O'Brien 1998). In *Miaoxia,* this was at times a symbiotic process, and at other times an agonistic one, whereby divergences reflected differing value sets, not only between knowledge domains but also with the social and procedural aspects of the project process.

As outlined in detail elsewhere (Hasdell 2016), for *Miaoxia* not all steps are consensual and not all are antagonistic. The processes are never as clear as the conceptualised cyclical development model suggests. In fact, the steps of design initiation and design development, the various participatory cycles, final design solutions, as well as design implementation provide a whole range of complex negotiations and social situations that change according to group dynamics, collective mood, misunderstandings, disagreements, that may be affected if not derailed by who has the loudest voice, design anxieties, fear of new ideas, and many other variables. Even the group members may change between cycles and affect the social dynamics. All of these required a series of linked and complicated negotiations in a constantly changing situation, which necessitated the participants to be flexible or adaptable through ad-hoc or on-the-spot solutions to concerns at times, and at other times it required the project leaders to refocus the project framework to enable participants' greater understanding or positioning with respect to the key issues. In *Miaoxia* the critical inflections during the process can be easily understood as key moments of crisis and conflict that radically shifted the project direction and development. It can be observed that these inflections tested the processes of actualisation of change and transformation in the village and the real world dynamics and parameters –both tangible and intangible - that can so easily disrupt these. The dynamics only become more predictable in later stages of the design process, once the new forms of social order are in place. This negotiated process, a transitional *Parliament of things* that allowed a transition of the structures and organisational matrix of the village, such that the villages initiated specific systems of profit sharing and service provision for the infirm and elderly.

Obviously external agents (social workers and designers) who come into a context such as *Miaoxia,* who bring new mechanisms of engagement, modes of mediation, and ideas, may disrupt the pre-existing patterns. This clearly adds to the underlying complexity. *Participatory design* and *action research* processes are not simple in such contexts, even in small communities. The disparities of value sets and knowledge domains means all parties and stakeholders will have very different interpretations of community and self-interest at different moments in the process. In actualisation, the complexities of negotiating land-use, sharing collective responsibilities, identifying roles, the formation of social enterprises, or the development of common understandings (linguistic and in terms of design language) for shared visions and project briefs, in effect activated and negotiated very different levels of complex knowledge translation, exchange (on multi-lateral levels between different knowledge domains).[2] In collaborative project situations such as *Miaoxia,* commonalities in communication and knowledge transfer may facilitate better integration, but the definition of new practices of *social design activism* was marked by the moments of agonistic negotiation and near conflict. In fact, it is these critical inflection points that define new domains, and help to push *participatory design* out of the "problem-solution" consensual paradigm. Furthermore, the knowledge generation resulting from these processes can be an outcome that indicates not merely data but new pathways, connections, and social constructions that potentially open up new hybrid fields of knowledge.

The temptation to see the processes in *Miaoxia* as simple, because it is in a small, rural context, miss out on the underlying complexities in processes between disciplines, cultures, socio-economic classes, technology, process, and praxis and all the associated knowledge transfers that were necessary on many different levels, from

the tacit to the conceptual, between domains and languages as well. Drawing from *Miaoxia,* we can see the complex engagement and intertwining of the social and the physical within some of these complex registers. Firstly, it needs to be stated that there were no permissions sought or granted for any of these outcomes. Secondly, that the development of the initial project focus went through many distinct variations and different sites before negotiating the agreed direction and brief, and the social enterprise and cooperative framework through multi-level engagement of both social workers and designers. This negotiation eventually aligned the social stakeholders together with the desires for specific income-generating spaces and facilities. As a second illustration, a discussion later in the kitchen project on whether the main space should be divided between the kitchen and the dining area (a cultural issue because most rural buildings are functionally separated into discrete rooms) or whether it should be kept open to provide a social space with a fireplace for the winter, was debated at length and was approached with a mix of discussion and design strategy. The final outcome was to postpone this decision for six months so the villagers would use the space during the winter and see the benefits to keeping the space open themselves; a process that took many meetings to determine, as it went counter to commonly understood social and cultural norms in the village.

It is also worth noting that many *participatory design* projects undergo stages of indeterminacy and uncertainty. This can be in the definition of outcome or within the complex processes engaged to different degrees in the different stages of design, due to the complex nature of participation and divergent stakeholder views. The importance of knowledge (generation and transfer) as parts of the interconnection of the social and the design process on the one hand, and between the different heterogeneous fields of knowledge and the negotiations these entail, cannot be understated in a project such as *Miaoxia*. They act as conduits through which the formerly discrete fields of knowledge require often complex processes of translation and negotiation, for instance, between the tacit knowledge of a craftsperson and the theoretical knowledge of a scholar. The processes therefore foster exchange between different stakeholders, participants, and researchers on many different registers. Further, if the recombination of different knowledge fields generates new forms of knowledge that can (but do not always) contribute to the ecology of knowledge, *social design* can help structure and materialise this as outcome and process.

Towards design social ecologies

The wider rubric of *social design* in Manzini's (2011) view is the tendency of design to become networked as a mix of material and immaterial systems connected to places and people. He suggests that design approaches can become socially innovative or transformative as cultural practices and agencies developing "open design programs," "distributed design agencies," or "design lab networks." Further, as design disciplines seek ways to respond to broader social changes, there is a need for new tools, methodologies, and frameworks to engage and embed transformative design processes in social contexts, and in new modes of practice. His premise is that this emerging context impacts the professional and academic boundaries of design disciplines and social practice. It can be argued that Manzini embraces the altruistic aspects of social design and maintains its systemic properties over its transformative potentials, the contestation here is that this thinking needs to go much further.

Loosely drawing from Ivan Illich's renowned writings and critique on the technocratic society and the need for a concept of conviviality (Illich

1973), we can pose the question of: How are we to see the transformation and impacts of design social? Are its various outcomes measurable, quantifiable? Do its temporal lived dimensions reveal the manifest outcomes of social design, or, for that matter, design activism as significant, impactful, and how? Further, how are we to understand the properties of thingness – both as social assembly and as a thing with meaning? Does this represent a social assembly or a quasi-object that are in part social construct and in part the manifestation of design outcome as in places like *Miaoxia*, irrespective of whether it is design *for* or *with* the social?

I contest that design and its social milieu, when considered together, should be considered not only as conjoined in process or concept as the field of social design implies, but implicated within each other symbiotically as a kind of synthetic design social ecosystem. This parallels the idea of a "second nature'" that I have written elsewhere (Hasdell 2006).[3] Understanding the social as a complex milieu – as an environment within which design engages and forms new relations and engagements allows us to position design social as going beyond the linear concept of infrastructuring, in the formation of a design ecology – as referenced earlier – one in which the new design becomes a constituent part that operates within the social milieu in the best of cases. This integrative approach, as the consideration of inputs and outputs, stakeholders, regulatory or feedback systems involving different knowledge fields in a continual process, becomes integral to the specific project development. Through the nuanced integration of the different domains and socio-material assemblages, the situating of resultant processes and contributing outcomes constitute a form of an ecology of practice for social design or design activism, able to be active and innovative in both the social and in design. These generate a web of different situations, negotiations, intersecting or contradictory knowledge fields, and at the moments of indeterminacy indicate the outer boundaries of the body politic and the intersection of the known and the unknown.

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Notes

1. The author, together with Anders Johansson and Tim Jachna, conducted this in 1993 as part of the EASA summer programme.

2. Note that locally specific socio-cultural modes and practices are coupled with the complexities of social structures, kinships, hierarchies and values in both intangible and tangible forms. Specifically in *Miaoxia* villagers have 70 years of experience negotiating the ever shifting centralized policies and their impacts determined by the Government and their local representatives during each 5 year plan. The various rural and urban policy shifts that occurred and are still occurring keep the agrarian communities in a constant state of flux. Their resilience and adaptability should not be underestimated.

3. Reference can be made to the conversation theory as developed by the cybernetician Gordon Pask. His approach, whilst cognizant of the fields of computing and electronics chose to focus instead on human social interaction and the importance of feedback and disagreement through his 'Conversation Theory.' Notably the collaboration between the architect Cedric Price and Pask illustrates the possibility of an "underdetermined" socially transformative architecture, one arising from the dialogical. In such an approach the design of "calculated uncertainty" arises whereby the architect or designer cannot predetermine outcomes. Instead a degree of indeterminacy allows for uncertainties in program and changes of use during the 'life' of the building. This essentially "discards the traditional role of the architect as form and function giver and allows people the freedom to control and shape their environment and choose the ways and means to do so." Haque, (2007), The Architectural Relevance of Gordon Pask, in *Architectural Design*, vol 77, issue 4, John Wiley & Sons, Ltd., London.

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Bio

Peter Hasdell is an architect and academic who graduated from the AA and University of Sydney. He has taught and practised in more than six countries including Australia, the UK, Sweden, Canada, China and Japan and has taught in the Bartlett School London, University of East London, Columbia University NY, KTH Stockholm, Berlage Institute Rotterdam, HKU, Manitoba and other schools. Associate Dean, Associate Professor, Discipline Leader for E+I, Director of the Design Social research initiative and year 4 Capstone Coordinator. With more than 20 years of teaching, he has expertise in the fields of architecture, urbanism, participatory design, public art practices, interactive arts, environmental design and social design. His most recent publication is titled *Border ecologies: Hong Kong's mainland frontier* (Birkhauser, 2017).

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Figure 9 (this page): *Miaoxia* community kitchen built in 2015 (foreground) and guesthouse (background) finished in 2017. Source: *Author.*

010

Creating Affective Social Design: An Ethical and Ontological Discussion

Jamie Brassett

172–185

The ethics of designing has often been organised according to moral imperatives, and social design not only aligns with such moralities, but perpetuates them without providing a clear critique of the systems to which they adhere.
To rid itself of such reactive ideologies, and so to create other conditions for the possibility of its creativity, social design might occupy itself with a different account of ethics altogether. This paper will seek to elucidate such a different ethics along the lines Baruch Spinoza proposed and Gilles Deleuze championed. That is, it will therefore call for an affective designing that operates by creating ethical ontologies. This article will bring an affective, ethical, ontological design to bear on a social entity that emerges from the relations affectivity requires, insofar as it is one that is designed.

#Affect

#Deleuze

#Ethics

#Social Design

#Spinoza

The use of philosophy is to maintain an active novelty of fundamental ideas illuminating the social system.

Alfred North Whitehead, Modes of Thought, 174.

Opening remarks

Recent times have seen the discourses around the social function, social responsibility, and social responsiveness of design and innovation flourish.[1] For social design/innovation theorists and practitioners Lorraine Gamman and Adam Thorpe (2011b), for example, the designation *responsiveness* is preferred to *responsibility,* as for them it encompasses a more robust call to action in concert with the many stakeholders, shareholders, and other actors involved in any act of social design and innovation. While their overall mission seems valid and even laudable, it is the concept of *responsiveness* that I would like to focus on at the outset of this piece, in order to provide the germ – or, rather, the irritant – from which this essay will emerge. With responsiveness, then, we have connotations of reaction, an action taken as an effect of something else happening, a response; active rather than passive, yes, but an act that places the stimulus for itself somewhere else. Gilles Deleuze begins the chapter of *Nietzsche et la philosophie* (1962) that deals with Friederich Nietzsche's concepts of active and reactive forces, by discussing Baruch Spinoza's conception of the body. I will return to Spinoza, Deleuze, and the body below, but the way in which Deleuze characterises active and reactive in these terms is helpful now. He writes: "In a body, the superior or dominant forces are called *active* and the inferior or dominated ones *reactive*. Active and reactive are precisely the original qualities that express the relationships between forces" (Deleuze 1962, 45; my translation). More than 20 years after writing this, and in relation to the work of his friend Michel Foucault, Deleuze (1986) discusses the same kinds of relations between forces in terms of "power," which is important now because I question socially responsive design's responses to power. If the reactive stance is one that determines, and is determined by, one's position of inferiority in relation to power as Deleuze and Foucault both show, it leaves dubious a design that calls itself responsive while seeking to make a positive social impact. While I may not necessarily deny the impetus that moves design away from activities of exploitation (e.g. Julier 2017) towards less parasitical acts in the name of the social, I wonder whether proponents of socially responsive design could articulate their activities in ways that do not demand, at worst, acceptance of, or at best, reaction to, dominating discourses of power and the imbalance of forces that power requires.[2] In what follows, I will offer a way to think about social design that begins to reconstruct it in terms of active agents in affective relations; that is not to react, but to set the conditions according to which social design action can take place.

As Deleuze recognises (1962; 1986), any philosophical intervention in concerns of power, agency, their relationships as networks, and the creative forces that combine to produce all of this, must be considered both ethically and ontologically. Both of which converge, especially in the work of Spinoza. In the article that follows, I will philosophically examine these concepts and bring them to bear upon the theories and practices that form social design. This examination will, therefore, present two main areas. First, it will deal with affect, as it is for rethinking ethics that Spinoza mobilises this concept. I note that this would, ideally, also encounter politics—the preceding mention of power highlights this perfectly. I will defer such an investigation to another time, for brevity's sake, but ask that the ways in which such connections might be made are not forgotten.[3]

Secondly, this piece will examine these concepts through a particular example: the Well-being of Future Generations Act (Wales) 2015, presented as an instance of social design. The lesson for social design in all this, is that an engagement with affective existence will offer new ways for creating ethical ontologies, in differently constituted social groups, not simply responding to hegemonies of power and control as they are currently constructed.

I have positioned this paper, so far, in terms of a critique of socially responsive design seen as reactive. Before I move on, it is worth highlighting the wealth of work engaging with activist opportunities for and of design (e.g. Fuad-Luke 2009; Julier 2013a; 2013b; Hroch 2015) and in distinction to the reactive characteristic of socially responsive design innovation as discussed. Guy Julier notes, for example, the ways in which his concept of "design culture" (2013c) spawns the pragmatics of "design activism," not only as a response to the politics of neoliberalism, but also as design activism's production is exacerbated by neoliberalism's crises (Julier 2013b). He highlights four themes of such a design activism, as follows:

> *Intensification—which describes here a density of designerly intervention; co-articulation – which describes the marrying up of concerns or practices in a way that strengthens both; temporality – which describes the way that speed, slowness, or even open-endedness may be dealt with; territorialization—which describes the scale through which responsibility is conceived.*
> (Julier 2013b, 227)

Julier's themes here emphasise some interesting concepts, many of which resonate with some of my own work on philosophy, design, and innovation (Brassett 2013; 2015; 2016), and others who draw upon some of the philosophers we will encounter below (see, for example: Grierson et al. 2015; O'Reilly 2015; Marenko 2015). While a more fulsome argument with these concepts will have to wait, I would like now to highlight Julier's "temporality" and "territorialisation." His focus is upon mapping ways in which design might practise as more resolutely activist, but the philosophically creative and pragmatic approach I will take here encounters similar concepts, and with similar urges. The creation of radical and oppositional temporalities will reappear below in terms of the speeds and slowness of a thing's constituent particles, with ethical relations expressing the values of the impacts they have on each other. Julier scales the spatiality inherent in considerations of speed and slowness, giving the resultant complex a strongly ethical flavour (with the term "responsibility"). Taken together, all four of Julier's themes chart a space and time for a creative intervention that accesses modes of action across social, political, and ethical potentialities, that has as much to offer social innovation as it does design activism—as I hope to articulate in what follows.

The section that follows will focus upon Spinoza's concept of the body, especially in terms of affect; before examining the example of the 'Well-being of Future Generations Act' (Wales) 2015. The final section will draw out the ethical characteristics that both he and Deleuze highlight therein, with attention to providing an initial sketch for a different, more ontologically inflected, and therefore affective and active, social design.

Affect and design

Writing of the ways in which matter is endowed with its own energy, its own *vibrancy*, and which it uses to form itself, political scientist Jane Bennett (2010, xii) aligns herself with what she calls a "Spinozist notion of affect, which refers broadly to the capacity of any body for activity and responsiveness." In one way, we can see

an alignment of Spinoza's affective body with a concept of responsiveness, which has already been critiqued above. Maybe this will offer a possibility to agree with Gamman and Thorpe (2011b) that social responsiveness is "good enough?" But Bennett shows that responsiveness, a capacity for being affected and openness to the acts of others, is only part of the equation, and we might infer that to ignore "action" is certainly not good enough.

While Bennett quotes from Deleuze and Guattari's *A Thousand Plateaus* (1988), it is in Spinoza's work that she recognises the concept of affect to be grounded.[4] Similarly, Gregory Siegworth and Melissa Gregg, in the introductory essay to their collection *The Affect Theory Reader* (Gregg and Siegworth 2010, 3), describe as "one of the most oft-cited quotations concerning affect," the following from Spinoza's *The Ethics (1996, 71; IIP2)*: "no one has yet determined what the Body can do." There is much in this quotation; hence its characteristic as "oft-cited." I have brought Spinoza's account of the body into design discussions for some years (Brassett 2006), and have done so because it provides an account of a spatially constituted entity (Brassett 1991; 1994) that deviates from the norms of design, especially as these are defined according to the relation of form and function to each other.[5] We shall see that form and function become relegated in importance in Spinoza's body, with important ramifications for design.

In Expressionism in Philosophy: Spinoza, Deleuze writes (1990, 218):

> *Spinoza can consider two fundamental questions as equivalent:* ***what is the structure*** *(fabrica)* ***of a body****? And:* ***what can a body do?*** *A body's structure is the composition of its relations. What a body can do corresponds to the nature and limits of its capacity to be affected.*
> (Original emphases)

This passage highlights two points from Spinoza's definition of the body that interested Deleuze so much – its relational composition and its action – and does so in ways that seem to chime with a traditional understanding of design: constructedness and function. In the *Ethics* Spinoza writes (1996, 41; IIL1 & IIL2), "Bodies are distinguished from one another by reason of motion and rest, speed and slowness, and not by reason of substance;" and later, "A body which moves or is at rest must be determined to motion or rest by another body, which has also been determined to motion or rest by another, and that again by another, and so on, to infinity." These will be the co-ordinates we will use in our encounter with Spinoza's body.[6] Deleuze explains this further, relating the first as kinetic, and the second as dynamic (as we will see in a moment):

> *Thus, the kinetic proposition tells us that a body is defined by relations of motion and rest, of slowness and speed between particles. That is, it is not defined by a form or by functions [. . .] One never commences; one never has a tabula rasa; one slips in, enters in the middle; one takes up or lays down rhythms.* (Deleuze 1988, 123)

The body is not alone but multiple; made up of a multitude of particles that are accelerating, decelerating, constant, or at rest; with each of these particles making and breaking connections with other particles, other bodies. Without its elementary particles swerving and colliding, causing ricochets, accelerating and coming to a halt (Brassett and O'Reilly 2018), without all of this a body is nothing. It is neither the aim of all this commotion, nor is it contained in these things undergoing different processes. The body is more than the sum of these particles, and exceeds the local organisation into organs that coalesce throughout the body. The body's organisation is multiple, multiply differentiated, and always excessive of any particular format it engenders for itself. As such, the body, a

body, bodies, are always in the middle of the fields of potential, which they both situate and create.[7] The structure of a body, then, is kinetic, relational, and multiplicitous and so crossed by, and folded-over, with many other things, both organic and non-organic, that it is often difficult to see where one thing begins and another ends (Bennett, 2010). Small design consultancies characterise this well. Often with no permanent members of staff save the founder, these operate within a cloud of part-time, freelance, or sessional workers that are able to connect to different client organisations and their particular needs/desires in an instant. Further, if their offer is particular or specific, they can provide services to other small or even medium-sized consultancies.[8] This type of ecosystem of creative practice blurs the boundaries between terms such as *collaborator* and *competitor,* or *inside* and *outside,* in ways that exemplify the types of complex or chaotic organisations that are championed by management scholars Haridimos Tsoukas and Robert Chia (see: Tsoukas 1998; Chia 1999; Tsoukas and Chia 2002).[9]

Which brings us to the "dynamic" proposition. Deleuze explains (1988, 123):

> *The second proposition concerning bodies refers us to the capacity for affecting or being affected. You will not define a body (or mind) by its form, nor by its organs or functions, and neither will you define it as a substance or a subject.*

The determination of the "affective capacity" of a body comes from the disruption of its ordinary connections within social, scientific, natural, and cultural schema and allow many different properties to be re-connected in other creative ways. It is dynamic because it is kinetic. If the body's elements are multiple and moving at different rates, and these are colliding and ricocheting in different directions, then the forces that these swerves and collisions express are the affective capacities. This has important consequences for design, reliant—as it has been for the last 100 years or so—on being defined in accordance with the relative importance of form and function. While it is difficult for design companies, or sections of companies, to divorce themselves from the discourses of form and function, there are some for whom the network in which they operate – and so the relative impacts upon each element in the network – is important.[10] Crucial to an affective, dynamic approach to designing is, for example: a desire not to control situations; and, to be open to ideas coming from outside that might challenge one's beliefs (see also: Brassett and O'Reilly 2018).

If bodies are kinetically described—if we take account the speeds and slowness of the rhythms of their connections to other bodies and things—then they cannot help but affect other bodies. The critique of power relations that a consideration of affective capacities necessitates, leads to the realisation that any set of relationships can be articulated differently, even if they are between the same things in the same space at different times, or the same things across different spaces at the same time. This is one of the attributes for this way of thinking that Bennett (2010), for example, finds positively influential as a political scientist. An ethics of bodies in affective relationships – that do not necessarily only express themselves according to identity, form or function – provides a dynamic approach to the complexity of the world that is, in her words, "both vibrant and materially active."

This points also to an utterly complex view of designing. If bodies are to be reconstructed according to the speeds and slowness of their particles and the ways in which they affect each other, and not in relation to form, function, and substance, then this should impact all bodies in space; especially designed ones, ones that have depended upon notions of form, function, and

material to ground both their own ontologies, and the power over those entangled in such ontologies.

An example from Wales

The Well-being of Future Generations (Wales) Act 2015 is a law that requires Welsh public bodies to consider the "long term [impacts] of the decisions we make" (Welsh Government 2015, 4).[11] With a long-term foresight that is often lacking in politics, this act provides a statutory basis for taking into account the living standards of future generations in any public sector action; an act that environmental law expert Haydn Davis (2016, 41) regards as a "ground-breaking piece of legislation creating legal responsibilities which fall on the current generation, to safeguard the interests of future generations." [12] Davis (2016, 43) explains further:

> *The fundamental idea is that all these bodies should 'carry out sustainable development' through the medium of well-being objectives designed to achieve centrally defined well-being goals for the whole of Wales. These objectives must be set by the bodies themselves and all reasonable steps must be taken to meet them.*

Encompassing seven "well-being" goals – community cohesiveness, global responsibility, prosperity, resilience, health, equality, and cultural vibrancy (Welsh Government 2015) – this act brings under one rubric agendas that often are dealt with separately, and if they are brought together it is in terms of sustainable development only. This act takes sustainable development further in its ontological positioning of future well-being now, rather than the projected future state of current states of being. It is important to add that Davis (2016, 44–50) emphasises that though the act does not require the *achievement* of specific well-being objectives, any of the public bodies regulated by the act should be able to show that they have taken reasonable measures to account for the well-being of future generations in any of their processes. Davis' focus is the legal status of this, which is important, of course; for us, we will focus upon the ontological concerns.[13] And while this act places as a core concern the ontologies of future residents of Wales, it does this in terms of the ethical responsibilities that current residents have towards them.[14] There is a sense here, that any account of a contemporary social – and its sustainable development, that is, to ensure its future resilience – must include an encounter with ontology and ethics.

In "Control and Becoming," Deleuze (1995, 171) reflects upon his and Félix Guattari's characterisation of society in *A Thousand Plateaus* (Deleuze and Guattari 1988) thus: "society is defined not so much by its contradictions as by its lines of flight, it flees all over the place." We have seen particles of different speeds and slowness appear in Spinoza's account of bodies. With Deleuze, these speeds and slowness lead to highly kinetic social forms. The Well-being of Future Generations (Wales) Act 2015 presents us with "particles" under a variety of speeds and slowness – from national museums to fire engines, health systems to public sector workers – in a set of ever changing, networked relationships. Without prescribing exactly what should be done across these very different bodies (it is clear that the roles, needs, and desires of emergency services are very different to those of art galleries, for example) the act provides the requirement for each, in its own milieu, to take into account the well being of future generations.

Spinoza's other angle on bodies – that they are characterised by their affective capacities – expresses the stuff of society as both dynamic and mutually impactful; which for Deleuze and Spinoza reinforces their ethical nature. As we saw above, the recognition that a body

is composed of particles at different speeds and slowness, is one that highlights their relationalities and the pressures upon each other through these relations. At the surface of the Welsh example, the very notion of "well-being" is one that is deeply imbued with ethical ("well") and ontological ("being") concerns. With greater inspection, we can see different ethical ontologies being created. First and foremost, there is the affective connection between present actions and future lives, such that the ways of being that might be designed now (through addressing health services, for example, or reconstructing possible relations with cultural entities such as museums and galleries) must be considered in relation to future lives (through addressing health services, for example, or reconstructing possible relations with cultural entities such as museums and galleries). Next, there is the much more complex consideration that there is a future pressure upon the present, as noted especially in the work of Alfred North Whitehead (1961; 1978), and discussed by Brian Massumi (2011; see also: De Boever et al. 2012). There is a sense that the affective relationship of the future to the present, reinforced through this act, provides what Massumi (2011; De Boever et al. 2012) regards as a future cause for present actions. What this act of the Welsh parliament does is to require the affective capacities of any present socius (along with the interconnected particles that constitute aspects of its ontologies at various scales) to be constituted by their plausible future scenarios (Ramírez and Selin 2014).

There is a sense in which much design practice (not only social design) works in this way. With investigations at stages of the design process, particularly early research stages, working deep within the socio-cultural milieus of users, consumers, customers and so on (i.e., Laurel 2003; Brassett and Booth 2008; Julier 2013c; Brassett and O'Reilly 2018; and many others on user-centredness in design), most often intended design outcomes are projected to futures generated from these milieus.[15] We might see this design research, and the development undertakings that ensue from them (or others such as projections about the value of specific design outcomes upon the future commercial success for a client company), as similar future causes. However, these more everyday occurrences in design practice do not overtly articulate themselves in ontological or ethical terms as general practice.

Lastly, in relation to the Welsh act, there is no beginning set by parameters of this act, as many of the institutions constituting its elements have been on their own social, cultural, political and historical journeys for some while. Neither is there a clearly definable end, insofar as "the future" is not precise and the ontological possibilities denoted by each of the "well-being goals" is already in motion and operate at different scales. The social and personal ontologies designed by this act, for both the present and the future, become less about particular ways of being (as the title of the act might suggest), and more about opportunities for becoming. That is, ways in which the potentials for having active existences are never exhausted in the systems, milieus, or processes in which they are activated.[16] To do this without totalising and restricting, by constantly and creatively validating the "particles" becoming external (in both space and time), is some feat. And while the scrutiny and accountability issues encompassed by the act, as it is currently expressed, are somewhat vague, even problematic (Davis 2016), the creative construction of future-oriented ethical ontologies are astonishing, to say the least.

Final remarks

Design theorist Betti Marenko (2010, 136), in a piece called "Contagious Affectivity—the management of emotions in late-Capitalist design," writes that "*all* design has to do with intensities and affects circulating among the stakeholders: objects, designers, users, as well as contexts" (original emphasis). With this we re-encounter the forces of design activism and reaction noted at the outset of this article, realising that the ethical and ontological forces announced by the coming together of these discussions are also political and economic ones. For Marenko it is as important for designers to remember that capitalism accesses and profits from the affective capacities of designer bodies, as the fact of design affectivity itself. A "positive" affective perspective versus a "negative" capitalist one is not Marenko's argument; neither is it that of the current article. Rather, for us now, it is that when a social design is being created it would be better to move away from a reactive, resentful urge, which still fails to challenge the hegemonies of the capitalist machine, and engage instead in an active disruption of the very intensities and affective capacities upon which such a machine operates.[17] These creative conditions that generate novel possibilities for existence are not only ontological and spatial but ethological too. That is, designing novel modes of social relations not only creates the ontologies that emerge (of the individual as well as of the social, and any points inbetween and beyond these) but the affective power, the ethics, of the relations themselves. This is highlighted by philosopher of science, Isabelle Stengers (2011), in her "free and wild" conceptual "adventure" with the work of Whitehead, where she writes:

> *Far from constituting a 'defining characteristic', my feeling of being 'me', continuously, in a heterogeneous world in which my attention never ceases to vary, which the mutations of my interests, the permanent transformations of the 'here' of my perception, never cease to recompose, is thus in itself an 'exploit' requiring that the 'chains of reiteration of the past' be constantly forged, tinkered with, and improvised.* (325–326)

For Stengers, the act of making us *us*, of giving us a sense of continuity in flux, ever-changing, heterogeneous times and spaces, is an act of design, even though she does not call it such. Life is an "exploit" of "transformation," "recomposition," variance and "mutation," "constantly forged, tinkered with, and improvised." *We* are in a constant process of being designed. As such, when the affective capacities of these creative networks of modes of existence are accounted for, then these acts become characterised as both social and ethical. Any work that seeks to design, redesign, disrupt or even respond to the social and political will, as a matter of fact, engage these ontological and ethical considerations.

Once designing – again all, not simply that which articulates itself as social – recognises its character as affective, then it should realise that these ontologies operate at different scales throughout such multiplicitous planes, as we have seen with the Welsh example. This approach does not privilege one particular existence over another. Collections of things, people, societies, powers, and processes are still affective and assembled, modal and existential, and ethical. A social design, then, is one that maps and mobilises the affective ontologies of its constituents and itself, deliberately and actively. It is one that recognises it is deploying ethical and ontological powers, and that by so doing it reinforces or disavows the various agential possibilities of the types of existence that emerge. This is not a reactive choice, but an important, active, and at the same time deeply committed one, which should have ramifications for all types of creative practice. This is an ap-

proach that is developing a strong account in organisation studies largely, but not only, on the work of Tsoukas and Chia (see: Tsoukas 1998; Chia 1999; Tsoukas and Chia 2002; and also, Hernes 2014). It would be worthwhile to carry this into design in all its guises, and this current article hopes to make a start in this direction.

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Notes

1. See, for example: Mulgan (2007); Murray (2009); and 2. Howaldt and Schwartz (2010); and with a focus on design: Gamman and Thorpe (2011a & 2011b); Manzini (2014 & 2015); and Telalbasić (2014).

2. Design and philosophy researcher Matt Kiem (2011) makes a similar point while critiquing from a social and political philosophy perspective a particular social design/social innovation project—Emerging User Demands (EMUDE) by well-respected practitioners and theorists in this field Ezio Manzini and Anna Meroni (2007)—finding that it 'still remains allied to the structural conditions that maintain hegemonic unsustainability' (Kiem 2011, p. 211).

3. The current essay has a companion piece which is still in progress, 'Creating Modes of Existence. Towards an Ethological Design' that focuses upon the work of Gilbert Simondon (1989; 2005; 2009), while examining the collision of ontology and ethics; and another, Brassett (2017). Another piece on ontology and politics of smart design, Foucault and Agamben is in progress too.

4. 'We know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into composition with other affects, with the affects of another body, [...] to destroy that body or to be destroyed by it, [...] to exchange actions and passions with it or to join with in composing a more powerful body' (Deleuze & Guattari 1988, 257). Quoted by Bennett (2010, xii–xiii).

5. This is attributed architect Louis Sullivan (1856–1924) whose phrase 'form ever follows function' (1898) has become legendary in design.

6. I examine these same co-ordinates in another article on philosophy and design, with focus on speculation and technology (Brassett 2016).

7. This 'in the middle' is key in Deleuze and Guattari's work (e.g. 1984; 1988), particularly in relation to 'becoming'. Being in the middle relates, too, to the concept of *milieu* (the medium, middle and space) about which philosopher John O'Reilly (2015) writes well regarding Deleuze and Guattari, Canguilhem (2001).

8. A consultancy with which I have a connection, Studio INTO (www.studio-into.com), operates in just this way. Furthermore, they have a global network of associate

staff they call 'Cultural Guides', who can be mobilised to develop in-depth local cultural insights upon any topic.

9. As ever, such examples are not wholly 'positive', and the types of organisation discussed here have been highlighted as themselves exemplifying neoliberal approaches to the economy. See Julier (2017) for its focus on such issues in relation to design. Any examples are therefore most likely to mix positive and negative aspects of the issues being discussed. My own work on complexity theory, design and innovation (for example, Brassett 2013; and 2015) seeks to highlight these paradoxes.

10. A consultancy whose approach is similar to Studio INTO's (see no. 8 above), is Actant (actant.co) and for whom the affective relations within the cultural networks (including the commercial) are important. Among other things, they 'emphasise action,' follow the parameters of other (rather than impose their own) and value modal possibilities. For writing by founder Simon Blyth see (actant.co/publications).

11. The Welsh public bodies covered by the act are: Welsh Ministers; Local Authorities; Local Health Boards; Public Health Wales NHS Trust; Velindre NHS Trust; National Park Authorities; Fire and Rescue Authorities; Natural Resources Wales; The Higher Education Funding Council for Wales; The Arts Council of Wales; Sports Council of Wales; National Library of Wales; and, National Museum of Wales (Welsh Government 2015, 4).

12. At the time of writing, there have been hardly any academic responses to this act; Davis (2016) is an exception. Morgan and Lynch (2017) provide a blog post for NESTA—an 'innovation foundation' and charity that seeks to find, 'spark and shape powerful new ideas, joining with others to take on the big challenges of our time and shift how the world works for everyone' (www.nesta.org.uk/about-us)—that welcomes the act 'as a unique and pioneering piece of legislation endorsed by the United Nations which sets out clear expectations of well being goals for 44 public services in Wales to follow'.

13. Both concerns are related, for sure. The works of Giorgio Agamben (1998), especially, investigate ontological matters and jurisprudence together. As does Deleuze (1995) in some of his interviews—on Deleuze and jurisprudence, see Lefebvre (2005) and Mussawir (2011).

14. There is a branch of philosophy, 'population ethics,' which brings moral arguments to bear upon questions relating to the existence of future people. Notable in this are: Kavka (1982) and, most famously, Parfitt (1987); Fotion and Heller (1997); and, more recently, Roberts and Wasserman (2009). The current article is of a different, it is hoped complimentary, kind.

15. Designers' use of 'personas' demonstrates this: the construction of symbolic characters based upon idealisations from current experience, as fictitious future users. On the value of these see: Adlin and Pruitt (2010) and Kimbell (2015) as just a few of many possible examples. The ethical and ontological value of such personas remains to be examined, but Massanari (2010) is a good critical examination from a technological design perspective, and Turner and Turner (2010) in terms of user-centred design.

16. My article, see fn. 3 above, that focuses upon the work of Simondon (1989; 2005; 2009) in relation to ethics, affect and modes of existence, examines the ontologies of creative potential in more detail. See also Crawford (2015) and Brassett (2016) on some of these issues in relation to design in general.

17. It would be worth consulting the following, in their foregrounding of the political concerns announced here: Agamben (2009); Bennett (2010); Connolly (2011; 2013). See also Brassett (2015) for an evaluation of design and innovation's place in the Capitalist Machine, in relation to the work of Deleuze and Guattari.

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Bio

Dr Jamie Brassett is Reader in Philosophy, Design and Innovation and Course Leader of MA Innovation Management at Central Saint Martins, University of the Arts London, where he's worked since 1995. He is also a Visiting Professor in the Department of Design, at Anhalt University of the Applied Arts, Dessau, Germany. He is co-editing (with Richard Reynolds) *Superheroes and Excess: a philosophical inquiry* (Routledge), and is working on journal articles crossing ethics, social and political ontologies, futures, design and innovation. *Deleuze and Design* (co-edited with Betti Marenko) was published in 2015 (Edinburgh University Press). Jamie consults in innovation, strategy and design research, and is currently Principal Consultant for Studio INTO, a Design, Research and Innovation agency. Jamie is a member of the British Academy of Management, and holds Fellowships from the Royal Society of Arts and the Higher Education Academy.

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Serious Games as Social Innovation: Case Hong Kong 2003-2017

Hanna Wirman

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This article investigates existing digital games that are developed and used in Hong Kong to serve the local community and tackle various educational, social, and environmental issues. An online review and interviews of experts in the field found that 517 games were used and developed in Hong Kong. The games are mostly available online for free use. In this article, a categorisation of fourteen domains is proposed based on the games' general themes and learning goals. This article discusses some examples of the games in the review, and explores the existing potential of serious games as social innovation in Hong Kong.

#Social Innovation

#Serious Games

#Hong Kong

#Educational Games

#China

Introduction

Social innovation encompasses a range of practices and strategies that aim at the betterment of a society, often in respect to the less privileged. It is a loose concept that in the field of design research and practice helps to unpack how design and innovation, or perhaps *design innovation*, tackle social issues that force us to steer away from mere designs and business models not only to the end users but to larger societal concerns as well. Social innovation "usually implies a normative approach that something positive is created for the society" (Osburg 2013, 17).

Meanwhile, the concept *serious games*, which Clark. C. Abt coined in 1970, covers games that address changes in player behaviour or thinking instead of serving only to entertain. In the contemporary games industry and games research, serious games are defined very similarly as "games that do not have entertainment, enjoyment, or fun as their primary purpose" (Michael and Chen 2006, 21). They merge a goal of education, motivation, and/or behavioural change with the *fun of gameplay* (Rittefeld, Cody and Vorderer *2009*). While several terms—such as *applied games* or *games with a purpose*—are used to refer to this body of games, this article adopts the term *serious game* given its current popularity both in the industry and academia.

From the perspective this paper adopts, social innovation allows us to examine how a specific society addresses social issues through design innovation or through what could then be called *social design*. This article proposes a review of serious games as social innovation, or social design, and establishes the areas in which serious games tackle local problems and topics instead of merely targeting individual users in the context of Hong Kong S.A.R., China (HKSAR). It, therefore, looks at the societal potential and meaning of serious games rather than focusing on an individual analysis or a study of their form and features. While social innovation at large covers both new solutions that address social challenges and the related means of reaching such ends (i.e. business models and market-based mechanisms) (Osburg 2013), here the focus is on the solutions only. Specifically, the article reviews the so-called serious games that are created and used in Hong Kong over the period of fifteen years from 2003 to 2017.

Serious games today typically refer to digital games, because digital software is extensively applied to build the connection between entertainment and serious needs such as education, healthcare, awareness raising, and training. Apart from serving as a relaxing and fun pastime, games serve as tools and instruments to shape people's behaviour and to support learning of various kinds. The global revenue of these digital serious games is estimated to be more than US$150 billion in 2017 and will rise to US$200 billion by 2021 (Digi-Capital 2017). Not unlike the rest of the world, China and Hong Kong are part of the movement and actively seek new solutions through digital media and games. Among others, the People's Liberation Army developed its own game for recruitment and training, *Glorious Mission* (2011), some years after *America's Army* (2002) made game cultural success aside its recruitment goal. Similarly, regional governments apply games, particularly when addressing younger audiences, as illustrated by a massive multiuser recycling game implemented using a large outdoor screen in the city of Guangzhou (2014), or games that teach basic law in Hong Kong (2003). Understandably, the largest market of digital games in the world also contributes to, and consumes in, the realm of serious games. Hong Kong, further, is an interesting city to examine the use and development of serious games in Chinese speaking regions. Not only are Hong Kong parents the biggest spenders in the world in terms of purchasing education (Gray 2017) –

including digital applications – but the city also stands as an important innovation hub between mainland China and the Western world. Therefore, a study of serious games in Hong Kong serves to examine forthcoming interests and developments in China's software and education technology as well.

From the point of view of social design and innovation, digital games provide a case that invites three main conclusions. First, if we can establish digital games as social design or innovation, we are better off to consider social design hand-in-hand with popular culture and (commercial) creative industries. Secondly, if digital games predominantly target young adults, and the related cultural stereotypes further exaggerate this viewpoint, a question arises whether the means and techniques of social design should be generation-specific. Serious games tackle social issues of various domains that range from elderly care to rehabilitation and raising environmental awareness. Therefore, to look at serious games as social design allows us to consider the generational aspects of it without marking their design purely related to adolescence. Lastly, and perhaps most importantly, considering games as social innovation suggests that social innovation and design can be, and currently is, addressed through one of the most fundamental tendencies of the human species, our continuous interest to engage in play. As such, the *play-element*, as cultural historian Johan Huizinga (1949) called it, can be leveraged in the often serious aims of social design.

In the pursuit to approach serious games as social innovation and establish their value as *social design*, this article investigates existing serious games developed and used in Hong Kong. This paper follows a liberal definition according to which "a serious game is an interactive computer application, with or without a significant hardware component, that has a challenging goal; is fun to play and/or engaging; incorporates some concept of scoring; imparts to the user a skill, knowledge, or attitude that can be applied in the real world" (Bergeron 2006, xvii). Therefore, the development of serious games' concerns with "applying games and simulations technology to non-entertainment domains" (Zyda 2005, 30) and thus utilise "the artistic medium of games to deliver a message, teach a lesson, or provide an experience" (Michael and Chen 2006, 23). Such an *artistic medium* includes a set of tools that range from attractive graphics, interface conventions, stories, and special effects, to music and, most fundamentally, incorporates engaging game mechanics that provide challenges as well as timely and accurate feedback to the player. The specific ways in which games motivate or engage are comprehensively discussed by James Paul Gee (2003) and Ian Bogost (2006), among others. Regarding the numerous ways in which serious games elicit positive impacts, Connolly *et al.* (2012) provide an extensive review that discusses impacts with the related empirical evidence. The study of whether any such impact results from playing the games gathered for this review is outside of its focus, however. Furthermore, while Bergeron's definition arguably applies to entertainment games alike, serious games here are defined as those games that were created with a specific real world application in mind and whose dissemination explicitly includes an aim to provide such a useful "skill, knowledge, or attitude" to the user (Bergeron 2006, xvii).

For the research at hand, an online review and interviews of experts in the field helped to identify more than 500 games that were used and developed locally in Hong Kong between the years 2003 and 2017. The quantity is not trivial and alone serves to suggest a steady interest in the field. In what follows is a categorisation and preliminary analysis of the games, followed by a discussion about the comprehensiveness of this review. As the focus lies in social design and innovation, this study will categorise the games into areas of social importance and discuss their influence within these respective sectors.

Methods

In order to map out as many locally made and used serious games as possible, the study applied various search methods. These included: 1) online searches using Google search engine; 2) searches in App Store and Google Play; 3) direct email contacts with local developers and professionals; 4) inquiries posted on local game-related online forums and groups, such as Hong Kong Game Development Group on Facebook and Heha Game (http://hk.hehagame.com/); 5) searches on the websites of major research and development funding bodies (such as Innovation Technology Fund, STEFG-PolyU China Entrepreneurship Fund, and PolyU MicroFund for Innovation & Entrepreneurship); 6) searches on the websites of special schools and organisations (such as Hong Chi Association and Heep Hong Society); and 7) searches on websites for local Non-Governmental Organisation (NGO) and other organisations with a specific focus on serious games and their development (such as Hong Kong Digital Game-Based Learning Association and university departments that conduct game design and research).

In terms of search engine queries, initial searches used the following keywords both in English and in traditional Chinese (Cantonese): *serious game, digital game-based learning, learning game,* and *educational game*. These keywords were used in combination with the keyword *Hong Kong*. The vast majority of games were identified through the primary Google search and through methods # 2–7. However, as the initial search and interviews indicated specific focus areas to be of particular interest, further searches used the following keywords in both languages: *English learning, e-learning games, healthcare games, senior care, self-care, cultural learning, language learning, marketing games, advertisement games, autism,* and *AD/HD*. The last two searches were based on results from expert queries. We added three further searches because we did not identify any games that belonged to these categories in the other searches. These were *corporate games, poverty,* and *gender equality*. All keywords were combined with additional keywords *Hong Kong* and, if applicable, *games*.

Based on the searches that were repeated twice within a six-month period, the study identified 517 games, of which 171 are for mobile devices, 298 games for web, forty-two for PC or Mac, and six that are digital installations. Some of the games utilise additional peripheral devices and technologies such as Microsoft Kinect or augmented reality tags. The majority of the games are free for download online.

After identifying the games, we played each game (if available), collected basic information (such as the game's developer, year of release, language, and platform), and identified any related tags. Through several iterations, the study established serious game categories based on the games' suggested serious goals and themes, and the already listed tags. The goals and themes were derived from the related online material or from the game's description. The categorisation is solely based on each game's domain area, not the target audience or the type of (learning) activity (i.e. problem-solving or physical exercise) in the game. Since this article does not discuss how successful the games were in changing the player's knowledge, perspective, or behaviour, the study conducted no further analysis at this stage. Instead, the focus of the paper is to provide an understanding of the pervasiveness of serious games development in Hong Kong, of the prominent areas of interest, as well as the organisations behind the games.

Such coding resulted in the clustering of games. Variations of the categorisation were created throughout the process. The final categorisation aimed to provide domains that are both mutually

exclusive and inclusive enough to have more than a few games out of the total 517 under each. The process followed strict partitioning clustering so that each game belongs to one category and to none of the others.

Categorisation

The identified games were divided into fourteen categories. These include a wide range of domain areas from health and special needs to public security and civil engineering. The majority of identified games, nearly 50%, fall under three main categories: Health and Medical; Language; and Law and Politics as they relate to one another. The focus being in social design and innovation, it is worth mentioning that a large proportion of the games are related to awareness raising and training. In order to focus on the games that specifically address public and societal issues (i.e. social innovation) this article discusses games in seven selected categories: Energy and Environment; Health and Medical; Law and Politics; Personal and Public Safety; Public Services; Special Education; and Values and Ethics.

Serious games designed for energy and environment

Given the growing global and local interest in environmental protection, many groups and non-profit organisations have taken measures to raise people's awareness through novel means. Out of total 517 games, thirty-eight games focus on energy-saving, environmental protection, and animal care. A majority of these are created by two government departments: Electrical and Mechanical Services Department (HKSAR) and Environmental Protection Department (HKSAR). Among others, *PBS Charging* (2015) is developed by the Environmental Protection Department of the Government and aims to enhance the public's understanding of charging money for plastic shopping bags and its exemption arrangement. The category further includes several games that tackle ways to save energy. *Switch-Off After Use To Save* (2011) and *Voluntary Energy Efficiency Labelling Scheme* (2011) are examples of energy-saving games that are available for use through an Internet browser.

In respect to nature protection, games produced by Hong Kong Wetland Park come with a special local focus. The wetland park itself is recognised as an internationally significant wetland, and one of the major stops for up to 100,000 migratory birds. However, it is severely threatened by air and traffic pollution. A series of games inclu-ding *Sumibear* (2011; 2014), *Migration Challenge* (2010), *Track It Down* (2010), and *Nature's Concerto* (2010) aim to enhance teenagers' awareness of nature conservation. Hagao Studio, a local start-up company also developed a mobile game, *Featherman* (2015), that aims to attract people's attention about wetland conservation protection.

Carbon Raider (2014), which combines exercise with environmental education, *Feed4Life* (2012), which concerns food waste, and *GreenXity* (2012), which helps to understand one's carbon footprint, all address environmental protection and were created by XNT Limited. As such, they stand out as some of the few commercial games in this survey.

Serious games designed for health and medical

The study found that fifty-nine games addressed health or medical care as a topic. Games in this category address senior citizen wellbeing, family planning and sex education, mental health, and physical rehabilitation. Also included in this category are games about healthy lifestyle and healthy eating, as well as those that address obesity. Most games in this category were developed or commissioned by government departments such as Leisure and Cultural Services Department, or societies such as the Hong Kong Society for the Aged or Hong Kong Alzheimer's Disease Association.

To provide some examples, the mobile game '*1069 試 帶 樂*' ("1069 Testing," 2011) developed by the Red Ribbon Centre of the Department of Health, provides information on local access to free condoms and HIV testing. Eight games by the Family Planning Association of Hong Kong focus on different aspects of sex education, such as sexual protection, consent, and sexual health.

Several games in this category focus on healthy lifestyle. *Student weight for height check and Lose weight—slimming!* (2016) encourages users to exercise. More specialised domains, such as *Professor Gooley & The Flame of Mind* (2012) focuses on mental wellbeing and mutual communication and was developed by the Hong Kong Jockey Club Center for Suicide Research and Prevention in collaboration with the University of Hong Kong.

As examples of rehabilitation games, *Cockroach Invasion* (2012), *Good View Hunting* (2012) *and Hong Kong Chef* (2012) utilise the Microsoft Kinect platform to offer upper limb, lower limb, and trunk balance training and support multi-play. Cognitive stimulation is the theme of *Six Art Fun App* (2011), a mobile game developed by Hong Kong Alzheimer's Disease Association. The game utilises the six traditional Chinese art elements as a basis for game design.

We can conclude from the above review that existing health-related games that are developed in Hong Kong target both the general public and a range of specialised audiences. These games range from rehabilitation and personal development to awareness raising and youth education. Furthermore, they were developed by government departments, universities, and associations that serve a single, underprivileged minority.

Serious games designed for law and politics

HKSAR law and legal matters and larger political considerations are the main domain of seventy-four games in this review. Independent Commission Against Corruption (Hong Kong) is behind more than fifty of these, and it aims to promote corruption-awareness among children and teenagers. In these games, players are encouraged to take on various roles, from evidence-gathering and field investigation to arresting criminals. All of them are web-based.

Another major sub-category in this domain includes games about Hong Kong legislation. These games are mainly produced by the Legislative Council of the Hong Kong Special Administrative Region of the People's Republic of China and The Constitutional and Mainland Affairs Bureau (HKSAR). *Basic Law Game* is a series of web games with sequels that are announced annually. While the game mechanics follow simple quiz structure, these games incorporate external coupon rewards and community functions. As such, they are some of the most advanced and extensive games included in this review. Interestingly, the oldest games

in this review belong to this category and were created by the HKSAR government. *Quiz on Article 23* (2003) and '國家安全考考你' ("National Security Examines You," 2003) both focus on the controversial and highly protested Hong Kong Basic Law Article 23, which discusses enacting laws that "prohibit any act of treason, secession, sedition, subversion against the Central People's Government" (Hong Kong Basic Law), and is therefore closely linked with national security.

The category of serious games for law and politics also includes one protest game, *Yellow Umbrella* (2014), which addresses a specific moment in Hong Kong's recent history. It portrays a clash between protestors and the police force during a series of sit-in street protests that took place in 2014. The game is available for smartphones that run Android or iOS.

Serious games designed for personal and public safety

Fire safety, road safety, gas safety, electrical safety, escalator safety, amusement park safety, construction site safety, and slope safety are all covered by serious games developed in Hong Kong. As games in other categories, many of these games result from government initiation and reinforce knowledge around specific policies and guidelines that target the general public. These games build general preparedness and teach how to act in case of an emergency. Among others, *Stay Calm & Collected* (2014) focuses on fire safety and *Safe Rider Game—Safe Use of Lifts and Escalators* (2011) teaches how to travel safely using lifts and escalators.

Serious games designed for public services

Six games share themes related to Hong Kong public services, including postal services, building maintenance, public transport and tunnel services. *Which Address is Correct?* (2015) helps users to properly format postal addresses, *Railway Builder* (2012) allows players to excavate tunnels, and *PARKnFUN* (2008) allows users to practice steering a bus into a correct parking space.

Serious games designed for special education

Games for special needs are among those that receive significant government funding and interest NGOs. For example, Hong Chi Association released a series of mobile and web-based games to provide proper training related to emotional development, language skills, and interpersonal communication for children with attention deficit hyperactivity disorder (ADHD). Hong Kong Jockey Club Project C-REHAB provides a range of games, such as '普通話區' ("*Putonghua* District," 2014), that address language disabilities and intellectual disabilities. This category also includes several games for children with visual impairment produced by the Ebenezer School & Home for the Visually Impaired. Heep Hong Society has produced one fourth of the games in this category, including games to support speech therapy (*Games to Discriminate Sounds*, 2009), to train executive functions (*The ADHD Hero,* 2014), and games for children with autism spectrum disorder *(LetSTalk,* 2012). This category includes forty-five games.

Serious games designed for values and ethics

The domain area of values and ethics encompasses thirty-six games that teach youth positivity, honesty, fairness, sportsmanship, perseverance, business ethics, and courtesy, among others. The Hong Kong Independent Commission Against Corruption (ICAC) is responsible for most of the games in this group and the games are all web-based. "*All for Integrity*"—*Gee-dor-dor Party on Fairness* (2015) is about sharing with friends, while *Fight against corruption in school* (2014) presents a story about how corruption could take place in school settings. *Courtesy Bus Journey* (2008) is a game developed by the major local bus company, Citybus Limited & New World First Bus Services Limited, to teach about proper behaviour when traveling by bus.

Conclusions

This article presented a review of serious games made and used in Hong Kong during the past fifteen years and identified more than 500 games that were divided into categories based on their domain area. The review serves to suggest that digital games are taken as a worthwhile tool for education, training, and awareness raising in Hong Kong. They therefore contribute locally to social design and innovation. A large number of such games are produced by the local government, but commercial companies as well as schools, societies, and organisations actively create or commission serious games as well. The review also shows that even though very few games gain wider public visibility, the range of available games and interested parties is wide. Games are developed to make a contribution to the local society in all sectors. Platforms used for the games vary and games are typically available for free use years after their launch. In a closer study it would be important to study the use of these games, as well as the actual motivations and interest behind their creation. It is justified to say that public funding is used to develop a lot of serious games in Hong Kong, and local funding bodies believe in their potential. As games are often created during specific campaigns and multiple games are the result of individual projects, some years stand out from the review. However, based on this review, there has been a steady supply of locally created serious games between years 2003 and 2017, and there is no particular reason to suspect the trend is likely to fade away any time soon given the global growth of the industry.

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Bio

Dr. Hanna Wirman is an Assistant Professor at the School of Design of the Hong Kong Polytechnic University where she leads the MSc study stream in Game Development. Her research interests focus on marginal and critical ways of playing and making games, including design and research of serious games and animal play. She serves on the board of Chinese DiGRA and on the DiGRA Executive Board. She is the director of Global Game Jam Hong Kong since 2013.

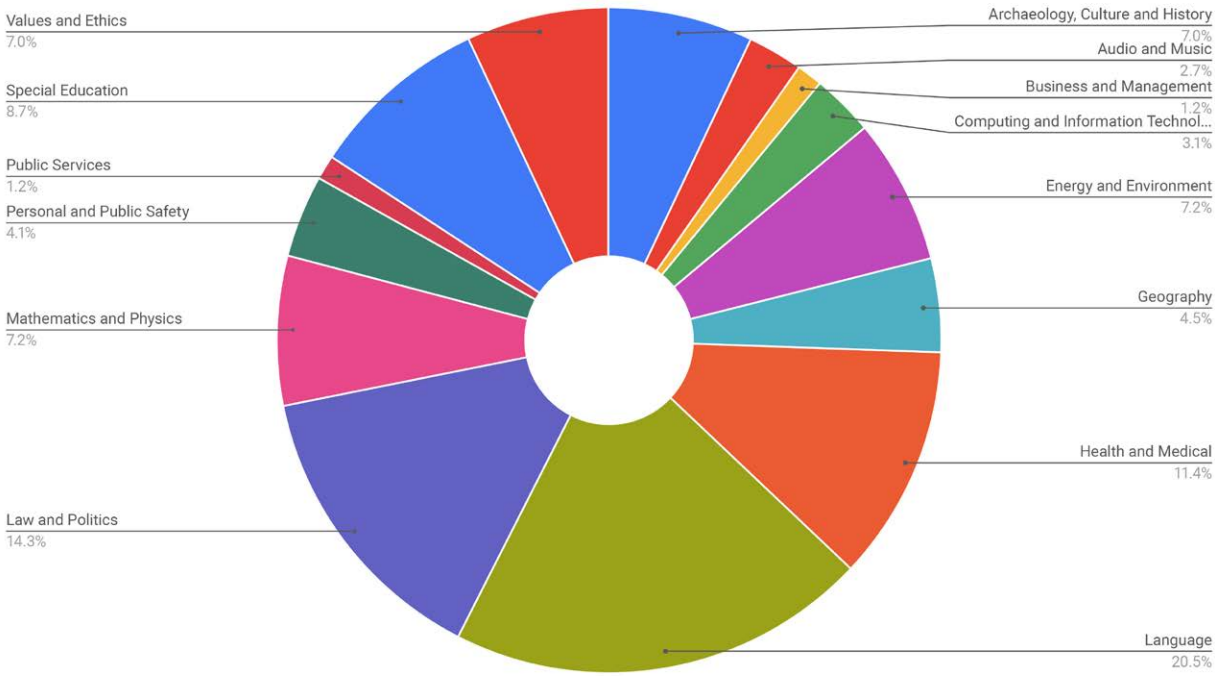
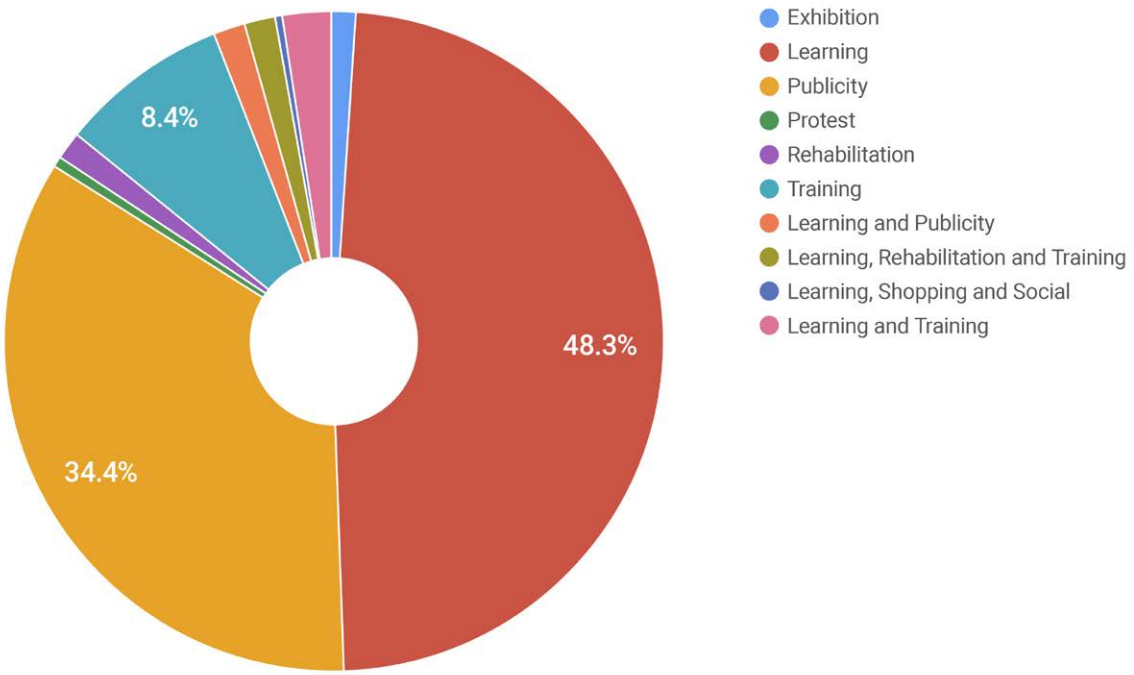


Chart 1 (this page, top): Domain Categorisation, Serious games domain categories. Source: *Author.*

Chart 2 (this page, bottom): Purposes, serious games purpose categories. Source: *Authors.*



012

Digital Infrastructures and Militarised Environments: Spaces of Conflict in the (post-)Anthropocene

Lukáš Likavčan

196—209

This paper presents the idea of multispecies *diplomacy* on the background of unstable and violent political geographies of the Anthropocene. The idea is first defined in terms of associated notions of *sympoiesis* and *habilitation*. After the preliminary arrangement of the conceptual framework of the paper, the possibilities of multispecies diplomacy are assessed in relation to current militarisation of environment, that prevents any diplomatic solution of climate change and leads to increased environmental injustices worldwide. This is illustrated with an example of conflict in the Negev desert, where changing climate is inherently integrated into the structure of conflict. Secondly, digital infrastructures are identified as an ambiguous factor influencing the outlooks of future practices of multispecies diplomacy. Thanks to their capacity to redesign existing environment, they can act as forces of deterritorialisation that can either stabilise existing hegemonies or lead to subversive appropriation. As far as digital platforms are open to ideological reframing, ecosocialist politics engaging in multispecies diplomacy is encouraged to appropriate them in terms of cognitive mapping and habilitation.

#Militarisation

#Habilitation

#Cognitive Mapping

#Sympoiesis

#Digital Platforms

Introduction

The two central notions of this paper are *war* and *military*. They can, however, only make sense if they are considered in duality with their respective counterparts—*peace* and *diplomacy*. Given the on-going period of ecological emergency (threating to culminate in unprecedented climate catastrophe) I would like to follow the metaphor of diplomacy, as originally set out by Bruno Latour (2004, 209–217). The art of diplomacy involves understanding the territories that precondition any planetary diplomatic relations, since in these territories peace is not considered as the default option—it must be patiently arrived at. Moreover, diplomacy is needed only if there is an urgency to manage and design relations, hence to politically and ethically intervene into world's *becoming* that way or another (to put it in Deleuzian diction, see Deleuze (1994, 41–42)). Such a standpoint implies: 1) The idea of *Nature* which is neither harmonious nor evil and catastrophic, but which simply does not exist at all (see Latour 1993; Latour 2004; Descola 2013); and 2) That diplomacy does not presuppose eschatology (which always smuggles into our ontological analysis some inadequately narrow normative presuppositions).

These two claims are inherently intertwined. The idea of Nature is very dangerous, since it easily justifies a belief in some historical point of arrival for humanity navigating itself throughout an overheating planetary ecosystem. Thus, it gives us false guarantees regarding our environmental political action, because it presents us a simplistic roadmap for climate change mitigation and/or adaptation that depicts a future time when climate change is definitively eradicated and when we can finally proceed – with a great relief – to solve other problems, less environmental and perhaps more "human" (for whatever that word might mean). In this respect, my idea of diplomacy is nihilistic, since it operates within an ever-changing environment that will never cease from our political horizons. Such an idea presupposes a world being in constant trouble and always inventing new troubles once the previous ones seem to be finally resolved (Haraway 2016, 10–12; 56). Optimism and catastrophism presuppose each other, and for this reason, exorcising the spectre of climate catastrophe must simultaneously mean to get rid of naïve environmental optimism.

Ecological entanglements and predatory relations are closely interlinked (Viveiros de Castro 2014; Haraway 2016). This does not justify predation *per se*, but only gives us a peculiar ethical perspective: it allows us to distinguish between acceptable and unacceptable predations and entanglements in a given context. In other words, this paper is motivated by strong intuition that if one takes seriously the idea of inter-species diplomatic relations in the Anthropocene, one should also seriously consider potential future sites of conflict, exploitation, and violence in order to prevent their harmful proliferation and multiplication. Throughout this paper, the normative framework of such diplomatic practices will be further developed in terms of interlocking concepts of *sympoiesis* (Haraway 2016), *conviviality* (Illich 1975) and *habilitation* (Likavčan and Scholz-Wäckerle 2018) and assessed as feasible if the task to assemble, reassemble, generate, and interconnect particular material spaces or territories is met in a serious fashion.

The paper will proceed as follows. At the very beginning, the key notions of *sympoiesis*, *conviviality* and *habilitation* will be properly defined. Secondly, the analysis of the processes that lead to the militarisation of the environment will provide an understanding of territories of transversal and cross-species diplomacy as highly conflictive zones that are further destabilised by climate change (Keucheyan 2016). Then, our focus will shift towards digital

platforms as emergent sites of governance and sovereignty in late capitalism and as potential post-capitalist infrastructures. They will be analysed in terms of Nick Srnicek's (2016) and Benjamin Bratton's (2015) accounts of *platform capitalism* and *the Stack* as instruments of deterritorialisation and reterritorialisation, and as infrastructures re-assembling territories and creating new spaces of control, governance or freedom. Demilitarised environments and digital infrastructures together present territorial and infrastructural conditions that determine the overall space of possibilities for radical political intervention against climate change. This space will be defined by the set of sympoietic and habilitative practices, which foster strong interface relations between human and non-human collectives and allow them to mutually flourish without aiming to reach some state of perfect equilibrium. As we will see, the peace of the Earth is in perpetual revolution.

Sympoiesis and habilitation

The emblematic idea of this paper – and of the emergent possibility of multi-, cross-, inter-, as well as intra-species diplomacy – is the concept of *sympoiesis*. Sympoietic practices and tools generate *multispecies flourishing* and *well-being* (Haraway 2016, 51). They enable proliferation of manifold parallel evolutionary dynamics criss-crossing each other and layering organic and inorganic beings in thick compounds, meshes and networks—i.e. in open-ended, patchy, planetary assemblages of kinship and companionship (so called *holobiont(s)*, see Haraway 2016, 60). Sympoiesis means *becoming with*, *making with*, *worlding with* and *thinking with* all the critters of this world rather than *against* them (Haraway 2016, 59–60). This approach of "staying with the trouble" exorcises the spectre of teleology in political interventions, since teleology would mean a negation of the irreducibly troubling aspects of this world. Hence, such attitude accepts the planetary assemblage in its irreducible and complex richness and thickness (Haraway 2016, 56). It is further defined by speculative appetite and an ability to follow the thread of manifold kinships without necessary sense of any ultimate direction. It does not imply any consolation or redemption and it allows individual and collective operations in space of deep and structural contingency (Haraway 2016, 10-12).[1]

For this reason, sympoiesis invents a wholly new operational mode of political and ecological intervention, laying outside the dichotomy of anthropocentrism versus ecocentrism, since it does not operate with a hypothesis of the Earth or ecosystem as a closed system (and for this reason, it operates outside of the register of One)[2] and it plays with the *intimacy of strangers*, where individual entities join collectives of juicy companionship. Here they can mutate, but nevertheless they are still treated as distinguishable subjects of kinships, thus they are not being dissolved in some planetary mesh of undifferentiated relations. Thus every agency in such a matrix enters relations of mutual *symbiosis* of a special kind: it always means a detailed negotiation between predation and deliberate withdrawal of predation (the idea of kinship in Amerindian perspectivism, see Viveiros de Castro 2014, 59). As Haraway puts it: "Eating each other properly requires meeting each other properly" (Haraway 2016, 73). It follows that every kinship and every sympoietic worlding is inherently precarious, but nevertheless it always includes care, patience, as well as passion (Haraway 2016, 55).

Such an approach furthermore denies both naïve beliefs in techno fixes on the one hand, as well as an opposite attitude of total scepticism or even

determinism on the other hand. Haraway rather calls us "to embrace situated technical projects and their people" (Haraway 2016, 3). According to her story, technologies are not the enemies, but also they are not the ultimate solution to any problem (ibid). In this respect, Haraway's notion shares many similarities with Ivan Illich's (1975) concept of *convivial technologies*. The innovation of new technologies as well as re-use and re-appropriation of the old ones should be kept in line with the long-term metabolic limits of energy and material consumption and ecosystem reproduction. This idea further emphasises worker cooperatives, consonance with democratic values, and development of the care economy or gift-exchange, and it also demands a novel mode of innovation that endogenously adapts to institutional changes and respects the entropy law (Georgescu-Roegen 1971).

The two scenarios of technology innovation and appropriation are analysed in this respect by Lukáš Likavčan and Manuel Scholz-Wäckerle (2018), and they are called *prosthetics* and *habilitation* (Callon 2008, 43–51): "In general, prosthetics stabilise agencies via processes of convergence; habilitation disrupts them and induces a substantive change in the distribution of agencies through divergent operations" (Likavčan and Scholz-Wäckerle 2018, 7). Prosthetic change can be further explained as a design strategy aimed to enable an actor to conduct a desired activity that she/he/it would not otherwise be able to execute (Callon 2008, 43). It leads to *disciplination* and subjectification of human and non-human users (Callon 2008, 45-46; Fuchs 2010; Bratton 2015), consequently leading to the petrification of existing power structures. Habilitation – contrary to prosthetics – plays the role of potentially subversive technological innovation. Rather than focusing on the enhancement of individual agency, habilitation aims at *interfaces* between agencies, and generates a shift in their performativity as a function of mutual adaptation (Callon 2008, 44); it therefore operates within post-humanist imagery and requires a knowledge of the actual environment where agencies are deployed and produced, not just of the agency itself. Thus it can be defined as *reversed prostheticisation*, de-centring humans and facilitating a series of *becoming* rather than stable structures of *being* (Bratton 2015, 274-276). For this reason, it can be further conceptualised as involving procedures of *cognitive mapping* (Jameson 1991, 51). Habilitative innovation thus reorganises the interfacing between technological agencies, and creates sympoietic alliances between and within various actor-networks. Habilitation does not privilege any actor in the network, and for this reason it carries emancipatory potential (Callon 2008, 47). Moreover, habilitation accelerates the creative potentialities of current technological innovation in information and communication technologies, as will be explained under Planetary-scale computation.

Nature is a battlefield

Sun Tzu (2009) introduces in his *Art of War* an old saying: "If you know the enemy and know yourself, your victory will not stand in doubt; if you know Heaven and know Earth, you may make your victory complete" (Sun Tzu 2009, 40). What is at stake here is a strategic understanding of territory as a pre-condition of decision-making. The context of any practice is never neutral—by shaping the terrain or by creating a new territory, you modify the results of operations executed upon the given site. Climate change itself functions in this respect as a fabrication of new territories and logics of both inter- and intra-territorial relationality. Late capitalism adapts to this changing landscape, as it: 1) Appropriates

military invention (Keucheyan 2016; Duffield 2011); and 2) Develops strategies of resilient extraction, production, and logistics for the Anthropocene (Evans and Reid 2014).

The contradictory (and unfortunately still more and more mainstreamed) greening of capitalism can be interpreted as an attempt to dystopically continue the dull system of exploitation of labour and appropriation of nature on the overheated planet (Kenis and Lievens 2015; Moore 2015). Prolonging an expired economic system, however, cannot be successful without techniques of power, and as a territory of power relations becomes significantly reconfigured by climate change, the institutional and technological innovation leads to new perspectives on how to appropriate and use destabilised weather patterns, intensive droughts and floods, or deserted landscapes for the sake of overall continuation of the ongoing economic constellation (Keucheyan 2016). Thus climate change itself functions as a generative process of new militarised environments (Keucheyan 2016). From this perspective, it is indeed a "natural weapon" against those who do not have sufficient economic power, technological means, and scientific knowledge to partially adapt to the new and uneven patterns of climate behaviour.

Keucheyan (2016, 104-109) gives us, in this respect, a very detailed account of how military strategies recently adopted to the situation of climate change. Extremely unpredictable weather conditions behave like general *threat multipliers* and so they raise demands on resilience of military technologies and on methods of tactical planning (Keucheyan 2016, 112; Duffield 2011, 757). Hence, armies gradually become *chaos specialists* that are capable of facilitating seemingly disorganised behaviour and contingent events, and they learn to intervene into territory not by direct force of weapons, but by tactical *hacking* of the territory itself (see also *environmental terror* in Duffield 2011). Post-disaster situations are future *operational environments* of armed forces and, for this reason, adaptation to disaster or even deliberate non-intervention that would otherwise prevent a disaster from happening is accounted into military strategies (Keucheyan 2016, 106). In terms of global international relations, this new emergent quality of military forces can lead to novel and nasty ways of leading warfare in the Anthropocene, since the destructive force of corrupted ecosystem processes joins the club of the cataclysmic means of total war, such as nuclear and biological weapons of mass destruction. One does not have to produce a catastrophe in order to win a war; it is sufficient to deliberately create conditions in which disasters tend to occur (Keucheyan 2016, 122–124). If the future is in Hell, capitalism wants to make sure it will get some profit even once we are all doomed there forever.

Using the environment as a weapon (and as an integral part of strategic planning) is not a new idea, as one can observe in Sun Tzu's (2009) writings. For example, Eyal Weizman (2014) gives us a very detailed account of a particular case when *desertification* is employed as a method of continuous, structural, political violence: a so-called "battle over the Negev" in Israel/Palestine, described as "a systematic state campaign meant to uproot the Bedouins from the fertile northern threshold of the desert, concentrate them in purpose-built towns located mostly in the desert's more arid parts, and hand over their arable lands for Jewish settlement, fields, and forests" (Weizman 2014, 7). In his picture, colonialism, military, and climate are intertwined—as a line of desert changes from one year to another, so the settlements of Bedouins are again and again built and then destroyed by Israeli Defence Forces. For example, one particular settlement in an area of al-'Araqib has already been demolished sixty-five times since June 2014. The threshold of the desert,

which is represented by pulsating a 200 mm isohyet aridity line (Weizman 2014, 8), denotes the borders of the legal apparatus of the Israeli state, and hence as the desertification of Negev proceeded, the Bedouin settlements occurred repeatedly either inside or outside of the juridical power that did not recognise their claim on a desert land which they tried to cultivate. The cultivation of land was an important marker of a legal claim for the land—by default Bedouins were considered nomads, having no techniques and practices of agriculture. They were not treated as having any legitimate right on the land, and so the desert landscape of Negev became, from an Israeli jurisdiction point of view, a *terra nullis*—the no man's land, which could be freely appropriated and repurposed (Wiezman 2014). Thus, in certain sense, Bedouins share the fate of many indigenous tribes across the world: they were, and still are, considered a part of the *natural environment*, not a part of state *polis*.

My claim is that, similarly, as a desertification is used in Israeli ecological-military strategy in the Negev desert, so by means of climate change, we will see a global militarisation of a changing and chaotic environment in future time, in order to petrify and govern lines of colonisation and environmental/climate injustices (Keucheyan 2016). For this reason, a new doctrine of military perspective as an expertise in governing chaos gains extreme importance. This is very bad news for anyone who wishes that climate change can become a major argument in a deliberate worldwide transition towards a more peaceful future, since in fact, we can see attempts to design new ways that conflicts can be produced and further amplified. The Siachen glacier on the borders between India, Pakistan and China is another testing ground of warfare in extreme weather. This rapidly melting glacier suffers from the military activities of the Pakistani and the Indian armies, as both states claim the right over this territory. Thirty years of continuous warfare changed the mountain wilderness into a rotten ecosystem, and the Indian army gained major know-how about military ecology from the conflict (Keucheyan 2016, 119-120). In other ways, armies often operate in the mode of *ecological task forces*, which aim to contribute to labour of nature preservation and conservation, not only in India, but also in China or Israel and Palestine. Obviously, nature has always been an object of military activity and re-fashioning: national politics is historically intertwined with the protection of biodiversity, as well as with the production of nature and wilderness, since these have always been important practices of building a consistent idea of national identity (sometimes even connected to racist stereotypes, as in historical cases of French, British or German conservation movement, see Keucheyan 2016, 38-40).

Getting back to the idea of environmental and climate (in)justice, we can see a general pattern that many environmental injustices are intersectional with racial, ethnic, gender, age, and class divides in late capitalism (Keucheyan 2016). Looking at the global picture, we can see a continuation of many colonial relations as they are translated into asymmetries in the quality of living environments of whole nations. We can further observe systemic "outsourcing" of global climate change to the countries of the global South, where it can serve as evidence to the imbalance between the impacts of the changing climate on respective regions—while island countries of Oceania are sinking and South-Asian countries face unprecedented extreme weather, such as well-known Hurricane Haiyan (that ravaged Philippines in 2013), countries of the global North hesitate to implement policies of radical climate change prevention and/or mitigation. Importantly, while we must count the accelerated economies of China or India among major polluters, we must first see climate change as a result of worldwide parasitic supply-chain

network of capitalist production, and hence cease from the old-fashioned nation-state optics. In this perspective, it is still predominantly the Western capital that is heavily burdened with an historically high carbon footprint (Malm 2015, 327–333). What is worse, capital and international power turns into a means of preserving oneself from the suffering generated by climate change, since it allows one to invest in military, technological and economic fixes of climate disasters. Thus it is predicted that the most advanced countries can, in limited fashion, withstand the initial impacts of climate change and literarily export suffering to the "buffer zone" of the global South, similarly as the poor neighbourhoods of New Orleans de facto served as an urban buffer zone for hurricanes (see Keucheyan 2016).

If the environment and climate change become militarised, we can expect a spectrum of highly conflictive ways to save one class, ethnicity, or nation from the impacts of climate change to the detriment of others. Hence it is claimed that the regulative ideas of multispecies diplomacy require the active dissolution of such zones of conflict and injustice, in order to progressively unfold sympoietic practices within socio-natural assemblages. It means that a successful facilitation of these practices requires an embracement of anti-capitalist normative presuppositions. De-militarisation of the environment must, in such a case, become an inherent part of both human intra-species political relations, as well as planetary inter-species diplomacy, since otherwise it cannot be ruled out that climate change will work in favour of class divisions and worldwide economic injustices, potentially leading to the total eradication of some habitable land *together with its populations*. Enclaves, exclaves, and areas of militarised climate management will be increasingly used as ways the armed forces and capital will coalesce into a global war machine that facilitates a late-capitalist regime of exploitation and appropriation (Deleuze and Guattari 1987, 351–355). Militarised environments, thus, can lead to deepened and prolonged economic predation on a global scale. Hence, if the era of climate change is to be replaced by a peaceful future, this trend must be overcome by the non-militarised production of ecosystems. In the next section, we will see how we can find sites of such diplomatic activity in digital platforms of the near future.

Planetary-scale computation

Nowadays, calculation of nature becomes an inherent part of the internal mechanism of algorithmic computation (Kittler in Gale and Sane 2007, 324), since no computation occurs without the transformation of matter to energy and energy to information (Bratton 2015, 75). The idea of ubiquity of computation in contemporary socio-economic formation was recently conceptualised by Bratton (2015, 66; 70-71) as *the Stack*—a massive planetary infrastructure that turns to be a technological regime plugged into the fabric of ecosystems as well as societies. The Stack is defined as a site of proliferation of digital platforms, and is structured as a layered architecture unevenly enveloping the globe. Its six layers are *Earth*, *Cloud*, *City*, *Address*, *Interface* and *User*. These layers function as relatively independent modules that can be modified and refashioned without affecting the functionality of other layers. The overall functional logic of this architecture is not as much horizontal as it is mainly vertical—throughout columns crossing the layers of the Stack, energy, material, and information flows can travel up and down, deterritorialising on one side of the world and reterritorialising on the other. Thus the Stack architecture undermines and "overmines" territorial jurisdictions and allows for the cosmopolitan mobility of the elements within the

planetary network, and hence the Stack operates within its own mode of sovereignty: i.e. *Cloud* sovereignty.

What is important, *Cloud* sovereignty generates its own *enclaves*, *exclaves*, zones of exception, and temporary or permanent *camps*. Some are used for extractive purposes (as in case of mines, oil fields, or plantations, see Mehrotra and Vera 2016), others as sites of *sacred life* (Agamben 1998), i.e. of total exclusion and political desubjectivation of refugees, minorities, or "pathological" personalities. Still, others are not realised as "geoglyphs" on the terrestrial landscape (Bratton 2015, 296), but as virtual *spaces within spaces* which are materially realised only as ephemeral bits of code flowing throughout servers and data centres. For this reason, the question of the design of the Stack is inherently political, because designing the Stack means also designing the future of a planetary ecosystem. Nowadays, the Stack *terraforms* the planet in a deadly way, speeding up the entropy of the ecosystem, as it relies mainly on extractive industries that feed its material, mineral, and energy appetite (Bratton 2015, 93; 259). In this process, the planetary infrastructure of ephemeral enclaves of extraction and distribution was set out (Mehrotra and Vera 2016). More precisely, militarisation and securitisation of the environment act as mappings that always simultaneously produce new territories, and hence draw new violent borders on the Earth's surface. According to Bratton (2015, 323-324), the multiplication of digital interfaces allows for further petrification of this state of affairs. Mark Duffield (2016, 151) also points out that, "the industrial–military–academic complex is continually being reabsorbed into the complex emergency of neoliberalism." The world was thus turned into a layered carbosilicon machine, where the energy of the sun was trapped in fossilised dead bodies and merged with abstractions of cybernetic algorithms (Pasquinelli 2017; Bratton 2015). Destabilised, appropriated, and militarised environments thus function as spaces of conflict between the capital and planetary ecosystem, where the extractive nature of the former allows the degradation of the latter. The task then is: how to refashion the machine of planetary computation without instituting a new regime of planetary *occupation*.

In this picture, digital infrastructures and platform economies are identified as major factors that affect the results and methods of potentially successful sympoietic practices. As one can see from the analysis of *Cloud* sovereignty, they do not only actively shape material environments and human behaviour, but they also give rise to political conflicts, they facilitate ideological hegemonies, and they create new sovereignties (Bratton 2015, 56–65). Under conditions of climate change, they can help to elaborate zones of safety from the ravaging of negative planetary feedback loops, since they can help us monitor the environment and manage the sympoietic practices upon solid data. The enclave/exclave logic of the Stack can be a precondition for new modes of environmental nomadism in the Anthropocene. However, these dialectics can also directly expose Earthlings to the worst outcomes of changing climate, since the creation of exclaves can easily mean the birth of the new regime of refugee camps, not the romantic and frictionless idea of humans being embedded in the environment (Agamben 1998; Ek 2006). As platforms provide the means for the invasion of abstraction and imagination back to their direct presentation in reality (due to augmented reality, virtual reality, hypermedia, biomedia, ubiquitous interfaces, Internet of Things), they can facilitate an unprecedented proliferation of fundamentalism and of secessionist tendencies (Bratton 2015, 241–242). The adaptation to climate change under platform capitalism can easily mean indirect warfare against the global South without a single bullet being fired, because

the environment itself can easily become the most active means of conflict, which can get even worse when technologies become new environments. Such a situation can easily lead to worsening injustices even if the global socio-economic regime becomes partially adapted to climate change (Duffield 2016, 148), because climate justice is a function of spatial justice, as seen above in Nature is a battlefield.

Digital infrastructures, however, can counter this trend if appropriated in sympoietic fashion—that is if they function under habilitative appropriation (Likavčan and Scholz-Wäckerle 2018). They have the power to re-connect the disconnected and map territorially scattered processes in cognitively accessible fashion (the idea of *cognitive mapping*—see Jameson 1991, 51; Srnicek 2012). For this reason, digital infrastructures represent powerful cartographical machines. Their potential was clearly demonstrated in 2010, when Google Maps shifted the borderline between Costa Rica and Nicaragua. This resulted in a severe diplomatic crisis, including the possibility of war between both states. Fortunately, the cartographic power of digital platforms can also be used in an opposite manner, since they can be particularly helpful in the context of building new spaces of sociality and exchange as well as in evangelising people about the effects of climate change. Interspecies diplomacy thus seems feasible if it leans on strong material groundings that provide infrastructures that are capable of generating spaces of sympoiesis. However, platforms can also similarly prevent the realisation of emancipatory political interventions, given the ideological context that embeds them (Easterling 2013; Mouffe 1979). Accordingly, digital infrastructures either generate spaces of conflict or produce sites of sympoietic practice if driven by complementary political goals and practices. The overall ideological environment of the given epoch thus must be shaped in parallel with technological innovation, since technologies are *sociomorphic* (Pasquinelli 2016). For this reason, I will offer in the concluding section a political design brief of viable habilitative innovation and appropriation.

Conclusion

If the Earth is wounded now, the wounds will leave scars even once they are healed. And the scars will generate traumas that will haunt future generations. A solution for climate change does not mean restoring some old order of things. It is an intervention as severe as changing the climate by more than 150 years of carbon dioxide emissions that were generated by intensive industrial production. The planetary assemblage of the Stack was fabricated in a series of unfortunate semi-accidents on the crossroads of multiple historical trajectories between humans and non-humans, and our political task is burdened with this crazy past (the idea of path dependency, see Pagano 2011, 382). As we have seen, we are trapped within a carbosilicon war machine (Pasquinelli 2017, 322), and hence we are left with no other option than to replace it with a new planetary machine, not necessarily less silicon but definitely carbon-free. We must think and act globally, since if it holds that we live in the carbosilicon machine of the Stack, the relation between global and local is perverted and there is simply nothing like a local action complemented with global thinking, or vice versa.

Such a political intervention needs its design brief. For this reason, we can now conclude with a list of diplomatic practices of sympoiesis for the age of the Anthropocene and planetary-scale computation (hopefully leading to a transition towards post-Anthropocene, meaning also *post-capitalism*):

1) *Cognitive mapping*: Cognitive mapping is developed in order "to enable a situational representation on the part of the individual subject to that vaster and properly unrepresentable totality which is the ensemble of society's structures as a whole" (Jameson 1990, 51). In other words, cognitive mapping is an aesthetic strategy to comprehend immensely complex entities, and in this respect, it mediates alien principles of association and makes them manifest in a manner adequate to human comprehension. The aesthetic experience of climate change gives us the impetus to seek for ecologically sensitive alternatives to the capitalist civilisation of infinite excess. Instead of focusing on the human perception of time, we must think in intentions of *geological time*. This can happen, for example, by means of a live visualisation of satellite data crunched by supercomputers. Another aesthetic strategy could be an intense visualisation of non-human gaze from nowhere (Likavčan 2016, 116). Such strategies offer us tools to create *non-human centred narratives*. Moreover, cognitive mapping can further serve as emancipatory strategy if it is understood as Agamben's (2009, 17–19) *profanation* of apparatuses, i.e. making opaque structures and systems exercising power upon individuals transparent again. In Agamben's words, it is "the restitution to common use of what has been captured and separated in [apparatuses]" (Agamben 2009, 24). As an example, one can introduce the practices that open the black box of digital technologies and shift power relations to the side of their users (Bratton 2015, 341–346)—open source/open access, creative commons, independent hacker initiatives, whistleblowing, etc.

2) *Technology appropriation*: Technology appropriation can be understood as a means of the ideological repurposing or reframing of given technology (Likavčan and Scholz-Wäckerle 2018). Since innovation is always embedded in the political context, technologies tend to be appropriated by hegemonic agencies. However, this trend can be countered by subversive appropriation, which can unlock some new spaces of interlocking complementarities and path-dependencies (Pagano 2011). In this context, we can especially emphasise *habilitative appropriation*, when the technologies are used in novel ways by counter-hegemonic agencies in sympoietic fashion. As an example, one can mention *terra0* (2016) project of Dutch artist Paul Kolling, who deployed a set of drones, sensors, and cameras in a forest. This forest thus gained a capacity to perform autonomous operations on blockchain markets, capable of buying new pieces of land, obtaining maintenance services, or even selling its own wood (Kolling 2017). Taken out of its hyper-libertarian ideological context, the principle of employing smart technologies to provide non-humans special capacities to act as equal members of some platform *polis* can be seen as one of the essential strategies of habilitative appropriation. Similar attempts are clear also in works of David Bowen (2017), Art-Act collective (2017) or in the Methbot operation by a Russian hacker collective in 2016, which resulted in earning 180 million dollars via online advertisement by faking hundreds of thousands of American user accounts. In academic literature, Bratton provides a more infrastructural example, when he mentions National Aeronautics and Space Administration's (NASA) project Rainforest Skin, which shall serve to measure capacities of global forests to absorb carbon dioxide (Bratton 2015, 88). As can be seen with these examples, a crucial feature of habilitation is its orientation towards interfaces and non-humans. For this reason, we can approach habilitative innovation and appropriation as *radicalised prosthetics*—as *non-human centred design*—where not only humans, but also (and simultaneously) non-humans are enhanced in order to achieve the regulative ideal of sympoiesis (see the idea of *reverse prostheticisation* in the previous section

of Sympoiesis and habilitation). The figure and the background are thus inherently reversible (Bratton 2015, 274–276), and hence habilitation stands for a continuous mediation through a series of interfaces. In such an agonistic picture of politics, the initial landscape of habilitative practice is necessarily conflicted and populated with predatory relations. Nothing can prevent reactionary re-militarisation and precarisation of the environment, and habilitative technologies convey a collective attempt for humans and non-humans to tackle this trend.

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Notes

1. On the importance of contingency in environmental philosophy, see Likavčan (2016).

2. Operating outside the register of One is a recurring motif in Alain Badiou's philosophy. See Badiou (1998, 25–27).

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Bio

Lukáš Likavčan is a doctoral candidate at the Department of Environmental Studies, Faculty of Social Sciences, Masaryk University (Brno, Czech Republic). He studied philosophy at the Department of Philosophy, Masaryk University, and sociology at Boğaziçi University in Istanbul. He had been appointed as a visiting researcher at Department of Socioeconomics, Wirtschaftsuniversität Wien and at The Hong Kong Polytechnic University School of Design. He works within a paradigm of materialist, post-Marxist and post-structuralist philosophy, philosophy of technology, political economy and political ecology. His dissertation project focuses on political and technological imagination of post-work and post-capitalist societies.

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SELF-DRIVING CARS) IMPLICATION => [illegible] TO OWN CAR AND SO YOU DON'T NEED PARKING LOT IN FRONT OF YOUR HOUSE.

L> CARS GOING TO SLEEP INTO MOBILE OBJECT AND MIGRATING INTO THE CITY IN THE MORNING

L> ALSO EXAMPLE OF NEW RENTAL ECONOMY.

SOCIAL

RENT TO BE MANAGED BY PLATFORM, NOT A USER.

L> EXAMPLE OF TROPHIC CASCADE AS WELL.

SPECIFICITY OF RUSSIAN CONTEXT = CONTRADICTORY EXISTENCE OVERLAPPING LAYERS, SECULAR AND SOCIAL UTOPIAS/DYSTOPIAS MIXED IN STRANGE QUANTITIES. + SIMULATIONS OF HIST. (E.G. CATHEDRAL OVER THE UNIVERSALIST IMPULSE OF EARLY 20TH CENTURY RUSSIA

↑

CONTINENTAL SCALE OF THE COUNTRY

L> + COORDINATION OF THIS CONTINENTAL SCALE FROM SINGLE CITY-HUB]

L> MOSCOW

HYPERBOREAN AUTOMATIC CITIES ON THE TOP OF THE PLANET

L> ARCTIC PORTS & DRONE SHIPS

ALGORITHMIC REASON => DIS/REPLACEMENT OF HUMANS

L> IMPLICATION OF AUTOMATION

013 ABSTRACT

Adventurous *Upcrafting* Ventures

Markus Wernli

210–213

Since 2015, the Research Institute of Organic Treasures (R.I.O.T.) has combined fermentation practices and social experimentation in Hong Kong to give biological byproducts from human and urban metabolisms a regenerative purpose. Here putrescible wastes emitted from our kitchens, toilets, and bodies are considered our most foundational design material that contributes to a "world of eaters" (DuPuis 2015). In this applied design work, the concept of upcycling is socio-materially extended into shared forms of upskilling, and therefore referred to as *upcrafting*. In an effort to combine practical outcomes with long-term welfare creation, R.I.O.T. brings together laypersons, natural scientists, and artists, into open-ended explorations of alternative knowledge and change making, or what Melanie DuPuis calls "extended peer communities" (ibid. 155).

#Urine Fermentation

#Generative Vulnerability

#Radical Homemaking

#Risky Collaborations

#EID

Mary Douglas defined waste as the result of the "impure," that is, a mental construction to make up for our lack of social relations (Liboiron 2016). Here, the "social" is not just about inter-personal, institutional, or technological relations. Moving beyond our purification treadmills necessitates a "digestive turn" that brings us into full contact with the more-than-human world where we "make bargains for our safety with those who will not make us fully safe" (DuPuis 2015, 158). Composting feces and fermenting urine can be considered hyper-social design. Bacteria can be steered but never fully controlled; hence, we enter into durational collaborations with uncertain outcomes. Here, being social means encountering vulnerability with adequate support derived from a cultivated sense of our selves and for others (Stevenson 2016). Design enables a wealth of boundary negotiations, where the precarious nature of *upcrafting* human waste can be an opening for connection, spontaneity, and innovation. Through an experimental study with twenty-three participants (or would-be "precarity pilots") in a horticultural urine *upcrafting* mission – with humbling technical shortcomings – how such generative vulnerability can be a source of individual agency and social renewal was evaluated.

In the video shoot depicted below, a cast of adventurous homemakers, shop vendors, and construction workers bring their organic residues to the Kung Fu master (center) to have it fire-transformed (bio-charred) into a potent purifier and probiotic medium for air, water, soil, and interiors. As part of a business pitch, R.I.O.T. attempted to wow the Green Building Council in Hong Kong with a social *upcrafting* venture. Built on courage and a desire to learn, ventures are missions with a potential of failure. The proposed enterprise was rejected, yet remained a social enactment of re-investing into our biological humanity and rehearsed more convivial forms of "waste treatment," which proved to produce fun: https://vimeo.com/socialorganism/bc.

This article derives from a PhD research project entitled *Adventurous Homemaking and Design of Generative Vulnerabilities* that looks at what collaborative dynamics can support the purposeful reuse of human waste in contemporary urbanity. Directly re-engaging with our visceral role in metabolic circulations as part of human-environment health interactions, whereby reclaiming our "agro-ecological" potential (DuPuis 2015) is life affirming. The research, which was conducted over two years, explored forms of collective and durational forms of human waste *upcrafting* in a series of activation probes. The resulting main study engaged twenty-three Hong Kong residents in a socio-horticultural venture for *upcrafting* urine over eight weeks – without any dropouts.

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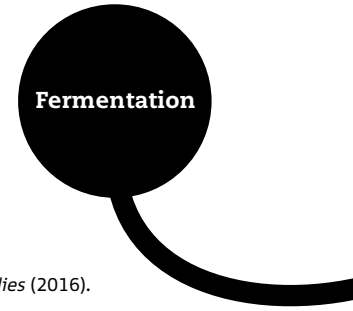


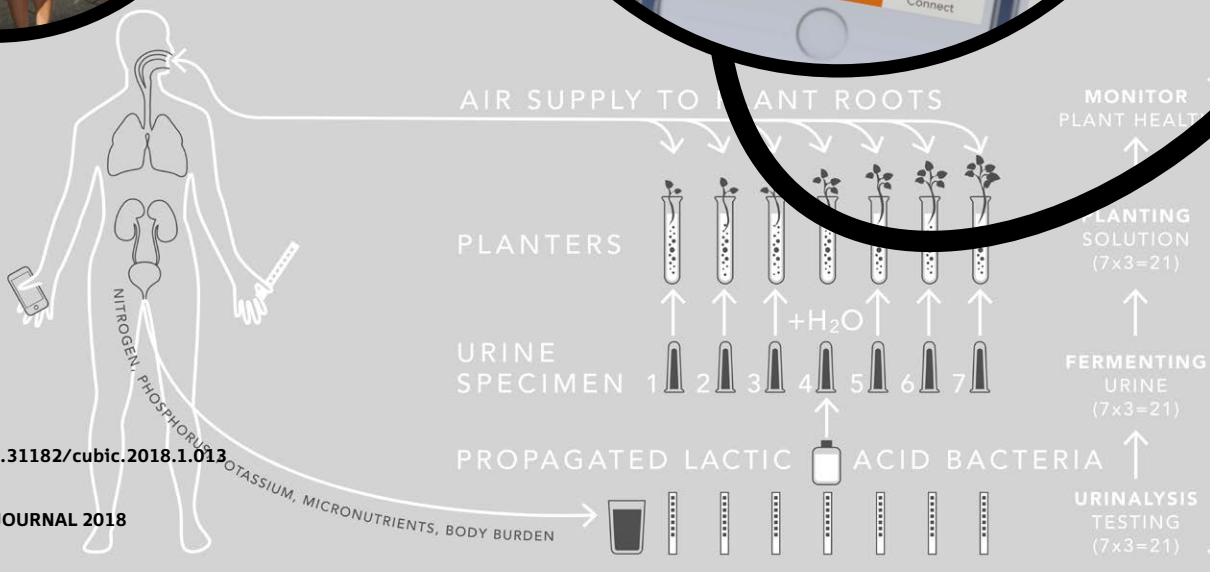
Bio

Markus Wernli is a doctoral candidate at the School of Design of the Hong Kong Polytechnic University. His research explores the bodily role of city dwellers in biochemical circulations. Markus' work takes inspiration from learning encounters found at eating design studio Proef of Marije Vogelzang in Amsterdam, practising Japanese tea ceremony with Imotosenke master Obana Ichiro in Kyoto, and impromptu composting school with ecologist David Freudenberger at the Australian National University in Canberra. In Hong Kong Markus is honing with fellow rooftop gardeners and plant enthusiasts the practice of 'lazy farming' on the impermeable clay soils of the Pearl River Delta.

Upcrafting Ventures

Bokashi collective at Hong Kong University farm (Workshop)

Black Circle Biochar purifyer as trackable social process (Business Pitch)



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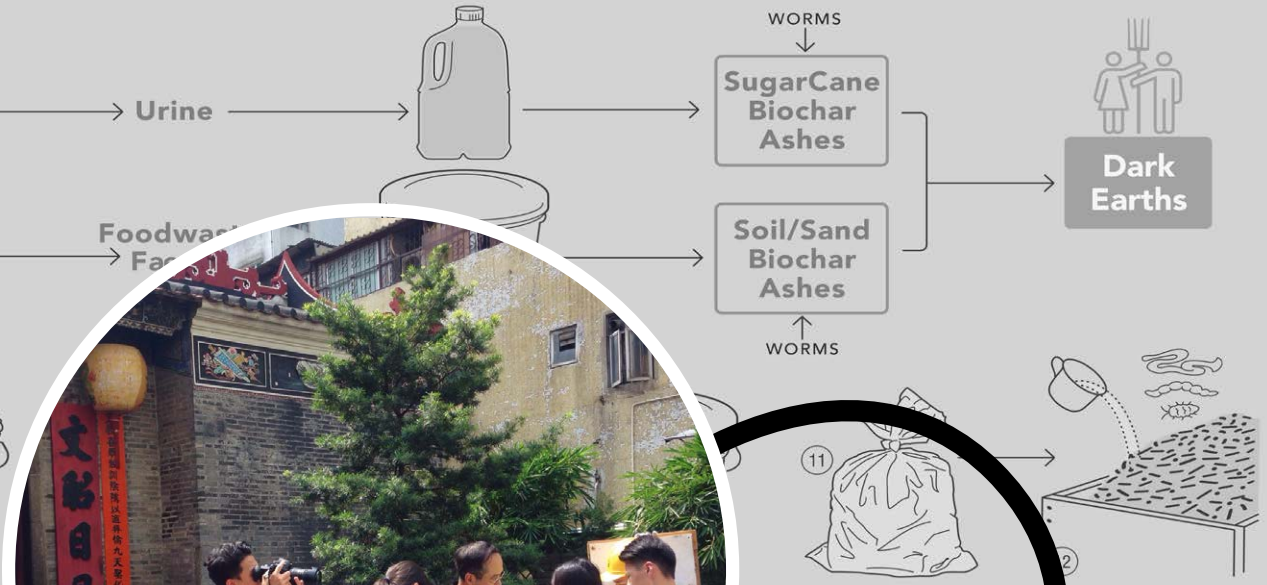

Black Circle videoshoot with biocharring Kung Fu master (Business Pitch)

Aquaforming Mars: Urine as time capsule for orchard nurturing on Mars (Exhibit)

Generative Vulner-*ability*

Nutrients accountability with the use of sense organs for recirculating urine into consequential food loop with plants.

Organoleptic Trophography

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