Architecture and the Time of Space

The Double Progression
of Body and Brain

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Preface

During my early introduction to architecture I found that I was motivated not only by matters pertaining to what architecture is, but also, to what it can do. Thus, the questions motivating this work derive from my education in architecture which, at their most rudimentary level, entail a deep fascination with the nature of space, and thus the problem of time. And, subsequently, a practical desire to understand the conditions that constituted experience, and thus perception, sensation and mind. My interest also developed from a general disposition towards others and world founded in principles of human equality and rights with respect to both freedom and responsibility. During my years practicing architecture, these questions as they were brought through the perspective of design continued to inspire me. At the same time, my interest in investigating these questions through theoretical and philosophical research persisted until my aspiration to engage in critical thought outpaced my desire to practice. Hence, a turn in career to work as an academic in the discipline of architecture and the area of architecture theory.

This research may be perceived by some as situated outside the realm of architecture. However, this is not the case. My approach to architecture theory is not one that begins with a study of the object, or, for some, one might say the subject of architecture. That is, if the object is understood as the manifestation in thought, process or form of the building or built environment (real or conceived) itself; and if the subject is understood as the thought or idea emanating from the mind of the architect (as author). While there is much architecture theory advanced from this perspective lining my own bookshelves and utilized in my work as an educator. The concerns that have always called me towards thinking about architecture as the imagined and constructed world in which we live are those that query the very nature of concepts, notions, ideologies and intellectual constructions and beliefs upon which culture and society – architecture as both a cultural product and a social actor – are formed. This goes, as well, to the considerations that motivate my concern for people, not users or inhabitants as such, but as ontologically situated beings in the world. Accordingly, my work primarily deals with the content, history and effects of architecture as it relates to theories of space, time, the body, and cognition. Employing and developing theories and methods from disciplines including philosophy, cultural studies, literary theory, political, social and economic theory, cognitive psychology, and the neurosciences in the broadest sense.

Admittedly, the nature of theoretical discourse has shown itself to be problematic over the past fifty-plus years; it has also proven to be transformative. Critical thinkers in the late 1960s developed a sustained critique of their philosophical predecessors – primarily in regard to Marx on one hand and Heidegger on the other – with a critique of social history and a displacement of metaphysics resulting in a repositioning of social and cultural discourse. Of course, the debate unfolded against the philosophical and aesthetic background of not only Marx and Heidegger, but also Nietzsche, Hegel and Freud on one hand, and Manet, Cézanne, Baudelaire and Mallarmé, Wagner and Debussy on the other. In architecture, the debate extended to Ruskin and Wölfflin, and to Wright and Corbusier, amongst others. This period, in itself, refers to an unprecedented artistic, scientific, economic, and technological mutation. Prevalent underpinnings remain identifiable, for instance an attack on the absolute nature of knowledge, which has brought about a fundamental rethinking of both the nature of consciousness, as well as a critique of science. As Foucault suggested, one of the great problems that arose in the 1950s was that of the political status of science and the ideological functions that it could serve. Another rebuke can be seen as the challenge to the primacy of truth as an adequation of subject to thing. This culminated in a radical critique of subjectivity resulting, some years later, in the so-called post-humanist-subject. In order to be rid of the subject itself, Foucault, in 'Truth and Power' (1977) argued that it was necessary to dispense with the essentialist subject both at the extremes and in-between the enlightenment's humanist subject and its ideals of knowledge as self-constituting; as well as phenomenology's fabrication of the subject as evolving through and embodying the course of history.

Reflecting on this history, that post-war moment of theory, one cannot help but be struck by the complexity and the ambiguity of the adventure; qualities most evident in the fact that new spaces and new means of writing and drawing, of thinking and making emerged. Ideas that modified our understanding of both communication and the image, of both space and time. Discourses, when combined with a reflexivity within certain architectures and certain texts, rendered them somehow indefinitely open. In the 1960s, literary theory transformed thought on both sides of the Atlantic. For instance, Roland Barthes's de-sanctioning of the biography-centric author, or the removal of authority from the author turned scriptor in 'The Death of the Author' (1967), or Julia Kristeva's concept of intertextuality with 'Word, Dialogue and Novel' (1969). These works impacted our thinking on linguistic phenomena and the origin (or *non*-originality) of textual content and further, on the invention of new forms of writing and affective relations. Such theories informed and redirected thinking in architecture, for instance, Diana Agrest and Mario Gandelsonas's work 'Semiotics and Architecture: Ideological Consumption or Theoretical Work' was published in the first issue of *Oppositions*, an architectural journal produced between

1973 and 1984 by the Institute for Architecture and Urban Studies in New York. With this, the influence of the French intellectual climate as well as the Italian discourse on semiotics was brought to the centre of Anglo-American discourse in architecture theory.

The intellectual trajectory along which this history is traced and the terrain on which it now takes place will be recognisable to anyone familiar with the work of such thinkers as Henri Bergson, Louis Althusser, Gabriel Tarde, Walter Benjamin, Pierre Bourdieu, Michel Foucault, Jacques Derrida, Jacques Lacan, Jean-Francois Lyotard, and, of course, Félix Guattari, Gilles Deleuze, and Maurizio Lazzarato. The importance of the radically original works that emerged in the seventies and eighties cannot be overestimated, for instance: Foucault's *Discipline and Punish* and his lectures at the Collège de France, *The Birth of Biopolitics*, and Deleuze and Guattari's *Capitalism and Schizophrenia* volumes *Anti-Oedipus* and *A Thousand Plateaus*. These works, translated into English shortly after their original publication, were being read throughout many disciplines outside of philosophy including schools of architecture, and their influence can only be said to have increased.

I share the above brief history so as to situate my work for those less familiar with the work of theory – whether architecture or otherwise – as this, too, is the intellectual trajectory and exploration along which my own work, as well as many of my contemporaries, travels. In my own work, the influence of the nineteenth/twentieth-century French vitalist philosopher Henri Bergson – the great thinker of time and, as Walter Benjamin suggested, a seminal source to consult in considering the problem of experience – has quite profoundly informed my thinking and shaped its outcomes. Both with respect to time and space as well as body and brain, his influence is reflected in the title of this volume. That said, this is not a collection of chapters on Bergson's philosophy. It is a collection on critical concepts I believe to be of importance for contemporary critique, delivered through topics that are relevant – at times directly and at others indirectly – to our current moment. This is a work of great commitment and it has sustained itself over time. It is my hope the reader finds some value in this as well.

Acknowledgements

Although this work stands on its own it has an history with genealogical roots and ramifications. I'm fond of saying: 'life lives: with or without our consent'. And the *longue durée* in which this work has lived, while known of by some, is in the knowing of only one. Still, this work is a record, a memory for me as well as others. With this salutation I'd like to acknowledge my colleagues at the TU Delft, and specifically those who contributed to the wonderful years surrounding the founding, growth, as well as rather brutal dismantling, of the Delft School of Design. These colleagues, friends and intellectual compatriots include: Arie Graafland, Heidi Sohn, Patrick Healy, Gerhard Bruyns; and, of course, Andrej Radman, without whom these essays would have never coalesced. They also include all those who in one way or another, were part of this successful adventure in academic research and education. Friend and collaborator Warren Neidich, and dear protagonist Reinier de Graaf cannot go without mention. Of course, family, biological or otherwise, Aaron Hauptmann, Lara Schrijver and Sybil Case Grund who know all my stories. And then there are those who literally made this event possible, Carola Hein who patiently supported this undertaking and Herman van Bergeijk, who drove this project through the procedural gauntlet up to and including the point of reminding me to write this acknowledgement. Herman and Andrej, again, for their critical commentary and insightful suggestions. They have put the dot on the I. Thank you all, and those, too, whom I have failed to mention, for your various and sundry ruminations on and thoughtful reflections on this work, that, in the end, is dedicated to the next generation.

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Introduction

From the Body to the Cognitive in Architecture

If things endure, or if there is duration in things, the question of space will need to be reassessed on new foundations. For space will no longer simply be a form of exteriority, a sort of screen that denatures duration, an impurity that comes to disturb the pure, a relative as opposed to an absolute: Space itself will need to be based in things, in relation between things and between durations, to belong itself to the absolute, to have its own "purity". This was to be the double progression of the Bergsonian Philosophy. (Deleuze, Bergsonism)[1]

This 'double progression' of space and time gave rise to Bergson's famous notion of time as *durée.* In the afterword of *Bergsonism* Deleuze suggests an extension of Bergson's project in terms of three primary concepts: 1) Intuition – as a method which utilizes the means of differentiation on one hand and convergence on the other in establishing what he refers to as true and false problem statements, or in Bergson the 'two successive turns in experience'.[2] 2) Metaphysics – in relation to immanence and duration a metaphysical image of thought corresponding to the new lines, openings, traces, leaps, and dynamisms discovered by molecular biology; new linkings and re-linkings in thought. And 3) Multiplicities – which he distinguishes in terms of the spatial and temporal, the actual and the virtual. In Deleuze's view, the concept on multiplicities is one of the single most underappreciated aspects of Bergson's thought – the constitution of a 'logic of multiplicities'.[3] This theory of multiplicity is one which is relied on so often throughout the chapters in this volume that an excursus on Bergson's two forms of multiplicities, another doubling of sorts, has been included.

To the above three concepts we would add the double movement of thinking and thought – time being both object of thought and presence of thought. While the contradiction remains within both time and thought; the contradiction does not remain between them. There are positive attributes of thought and thinking. The former as representation, and thought cannot represent succession without putting it in space; and the latter as action, as a real activity (active possibility) that is something other than cognition. Logos and intuition are here inseparable: pure space and pure time. Response to the contradiction of thinking and thought can be

found throughout Bergson's work but we will point to just two: first, with respect to spiritual energy (*Mind Energy* of 1919) and second, with respect to the stasis and movement of intellect and intuition (*Creative Mind* of 1941).[4]

Before outlining the chapters, we will introduce two precursors. One will present brief remarks on the body as a multiplicity, the other will present a few thoughts on the nineteenth century origins of cognitive psychology in (primarily German) aesthetic philosophy. Following this, the chapters will be presented with respect to the theoretical concepts that underpin this work as a whole. While the topics of the chapters vary significantly, they each address issues central in the thought of many architecture and cultural theorists, as well as philosophers, sociologists, cognitive scientists, and others since the end of the nineteenth century. Through a range of contemporary thinkers, we will try to get to the heart of matters while relying on the central proposition that all questions pertaining to the double progression of body and brain must be thought in terms of time rather than space.[5]

And What Can a Body Do?

Central to the project of humanism was the organizing of the body, its most spectacular achievement being the creation of a mathematics of seeing for the eye through perspective. Edmund Burke was one of the first thinkers to challenge the consequences for architectural practice of what he would describe as a forced analogy, namely, the ideas of regularity, geometry and proportion as deriving from the human body and being considered the 'efficient cause' for beauty in architecture. In *A Philosophical Enquiry Into The Origin Of our Ideas of the Sublime and Beautiful*, he remarks:

I know that it has been said long since, and echoed backward and forward from one writer to another a thousand times, that the proportions of building have been taken from those of the human body. To make this forced analogy complete, they represent a man with his arms raised and extended at full length, and then describe a sort of square, as it is formed by passing lines along the extremities of this strange figure. But it appears very clearly to me, that the human figure never supplied the architect with any of his ideas. For in the first place, men are very rarely seen in this strange posture; it is not natural to them; neither is it at all becoming. Secondly, the view of the human figure so disposed does not naturally suggest the idea of the square, but rather of a cross; as that large space between the arms and the ground, must be filled with something before it can make anybody think of a square. Thirdly, several buildings are by no means of the form of that particular square, which are notwithstanding planned by the best architects, and produce an effect all together

as good, and perhaps a better. And certainly nothing could be more unaccountably whimsical than for an architect to model his performance by the human figure, since no two things can have less resemblance or analogy, than a man, and a house or temple.[6]

The analogy, however forced, belongs directly to the dual planes of a distinct ontology without which the humanist project would not have been possible. An ontology which consisted of, firstly, a plane of nature, and secondly, a transcendent plane, functioning to organize and even socialize the first, and the special focus of that organization was the body. The thinking subject was set against the external world; for instance, in the work of Francis Bacon sociability organizes the body as corporate, itself an abstract body, and in René Descartes the thinking inverts the subject as object. Renaissance architecture could only be scientific as far as the perception of reality (Renaissance perspective) and the knowledge of space (cosmology) could be considered as one; dealing with perspective as a conceptual framework that is implicit in the theory of perception and proportion. In other words, our theoretical notions of reality are formative for our experiences: thus, what we consider important for the experience of architecture is not divorced from our conceptual frames.

The manner in which we approach questions pertaining to the body are, of course, not only formative, but necessarily transformative as well. For instance, in contemporary criticism on Baruch Spinoza, reason or the power of thought cannot be seen as a transcendent or disembodied quality of the soul or mind.[7] Rather, reason, desire and knowledge are embodied and express, at least in the first instance, the quality and complexity of corporeal affects. In Spinoza, body/mind suffer and act in concert, and thinking is a mobilization of an assemblage, a matter of place and jointures of movement and speed. Deleuze comments on this aspect of Spinoza: 'When Spinoza says "The surprising thing is the body … we do not yet know what the body is capable of …", he does not want to make the body a model, and the soul simply dependent on the body. He has a subtler task. He wants to demolish the pseudo-superiority of the soul over the body. There is the soul and the body and both express one and the same thing: an attribute of the body is also an expressed of the soul.'[8]

In Spinoza, bodies are not defined by their genus or species by their organs and functions, but by what they can do – by the affects of which they are capable – in passion as well as action. In this view you have not defined an animal until you have listed affects. A body, in Deleuze, can be almost anything; it can be an animal, a body of sounds, a linguistic corpus, a social body; yet, a body must be defined as a unity of parts, parts held together relationally and having a capacity to affect and be affected both internally and externally; further, in this reading, it is only kinetic

and dynamic differences that mark the individual body and that along two axes: on the kinetic axis there will be a characteristic relation of speed, slowness, relative states of motion and rest that maintain the individual in existence – (*hypokeimenon*, substrate or *perdurance*) – and on the dynamic axis degrees of power, bodies which affect and are affected. Further, from his reading of the stoic philosophers, Deleuze derives an infinitive – a *to walk*, a *to stop*, a *to flee*, a *to encounter*, or as he puts it, verbs in the infinitive are limitless becomings. But in all the bodies and their actions and interpenetrations, which Deleuze sometimes calls resonance and interference, there is also the incorporeal, which for the Stoics lies in making a line of separation pass no longer between the sensible and the intelligible, or, between the soul and body, but where no one had seen it before, that is, between physical depth and metaphysical surface – these are the 'effects', the infinitives, that result from amalgams, expressed as 'to be'.[9]

Issues surrounding the human body, its intellectual and sensory capacities are recurring themes in architectural discourse. In practice we are most often still dealing with a static concept, an ideal 'whole', for which sensory, aesthetic, and intellectual capacities rarely correspond to contemporary research in the sciences. The body today can be seen as a hybrid of organism and machine whereby the difference between natural and artificial is dissolved. Such theories deal with biotechnology, microelectronics and the human body, but at the same time are also about collectivity and individuality. Such thought models impact thinking on architecture and urbanism. Questions pertaining to and bearing upon notions of the body, its ability to simultaneously extend and delimit our understanding of both physically constructed and socially perceived space, belongs today to domains as seemingly diverse as architecture and the neurological and bio-technological sciences. In a contemporary reading of the very notion of body as presented here, we agree with Deleuze in that it is necessary to understand that there are many bodies: individual, collective, mystical, corporate, institutional, animal, even the body of the world and the heavens. And, too, there is a kind of indetermination and non-sense required for there to be thought, processes of what Deleuze and Guattari refer to as 'deterritorialization' or 'lines of flight': symptoms not codes, or 'spaces of affect' understood in contrast to 'effecting space'. However, what bodies may become what new molar organizations take place – again, the concept of organism or machine – depends on the event as understood for science. In the theory of science as *événementielle,* scientists are more and more concerned with singular events of an incorporeal nature which are affected in bodies, in states of bodies, in completely heterogeneous assemblages. There are heterogeneous bodies and the events pass across irreducible domains, there are lines that shoot between domains – interregnums – and science and technology are part of a new geography of relations in which terms are relational; thus, the need for transdisciplinarity.

We find in Deleuze the recurring question of the need to experiment/experience; the question however remains: How can we think with *and* instead of *is*? This is the body as a continuous multiplicity and for Deleuze this question is the only secret of empiricism, thus in the phrase 'body and soul' the question is *and what can a body do.*

The Psychology of the Senses – the Sensory and Imaginative

In *The Logic of Sense* Deleuze writes: 'Aesthetics suffers from a wrenching duality. On the one hand, it designates the theory of sensibility as the form of possible experience; on the other hand it designates the theory of art as the reflection of real experience'.[10] The significance of the discussion on sense, perception and affect for architectural discourse can be traced directly to two main streams of scientific and philosophical work from the end of the nineteenth century. The first is the advance in discussion on the relation of descriptive and genetic psychology in the work of Brentano, Husserl and ultimately Freud; and the second is through the impact on aesthetic discourse which concentrated on the problem of founding a psychological account of the experience of architecture, which moved away from the Hegelian and Kantian inheritance of German aesthetic discussion, and more to an empirical, and ultimately phenomenological base.[11] Within the discipline of aesthetics itself, a sub-discipline in philosophy from the second decade of the eighteenth century, thanks to the work of Alexander Baumgarten and Edmund Burke, the main direction had been to establish 'a science of the sensible', and in Burke a genetic investigation into the origin of 'our ideas' of the sublime and beautiful, which he, Burke, routes through what Immanuel Kant in the *Third Critique* refers to as a masterful and nuanced psychological account.[12] Burke tries to get from the genetic via the descriptive, and the late nineteenth-century German theorists take up this challenge again, by a rigorous partition of descriptive and genetic psychology, which is paralleled in the debates between Semperians and the advocates of Alois Riegl, on the evolution and pace of material culture and forms, which in Semper follows a strict evolutionary historical and social path, and in Riegl belongs as a free product of artistic 'Will'. The abandonment of the Hegelian notion of the idea, and the Kantian reflection on the power of judgment, was forced by the development of a new empiricism in German research, which can be traced through Ernst Mach, Franz Brentano, Wilhelm Dilthey, and Edmund Husserl.

German aesthetic theory – which would subsequently come to be held generally under the disciplinary field of Empirical Psychology – developed various approaches to the manner in which the aesthetic object is apprehended (both by mind and body) through such concepts as 'kinaesthetic' perception – a critique of perception based on the movement of the eye – primarily following Adolf Hildebrand on the one

hand, and the physiology of sensorial perceptions, held under terms such as feeling, mood and empathy (Einfühlung) following Robert Vischer, on the other.[13] However, it is in the work of Heinrich Wölfflin and his dissertation of 1886 *Prolegomena zu einer Psychologie der Architektur*, that we find what could be considered the first vitalist account of architecture.[14] The date is crucial, as almost at the same time, according to Oskar Kraus, Franz Brentano delivered his first lectures on '*Deskriptive Psychologie*' and the task of genetic psychology. Edmund Husserl in his memoirs dated them at 1884–86.[15] In his lectures Brentano distinguished his work as the discovery of the conditions of the coming into being of psychological processes, and saw it as necessarily connected with physiological investigation. Roughly speaking: sensation and the bodily experience are the source of all ideas, or concepts. Genetic psychology like a natural science would proceed by empirical observation, hypotheses, experimentation to law and posit inductive generalizations which show that mental effects have physical causes. For Brentano there are no innate ideas, all concepts can be derived from experience; thus, the task of descriptive psychology would be to analyse concepts and show from what experiences they have derived.[16]

A guiding question in Wölfflin's *Prolegomena* is that of expression: 'How is it possible that architectural forms can express an emotion or a mood?'[17] This question, inherited from an anthropomorphic notion of the aesthetic, can be summarized along two primary paths. First, by establishing a direct corollary between the work (generating pleasure or displeasure) which the eye carries out and the line or the contour of the form onto which the eye is focused. Secondly, by projecting onto the body (or the object) observed, the same emotional sentiments proper to or known by our own human form. The former follows from principles of kinaesthetic theories, which held that the appearance of the object takes it impulse quite directly from the movement of the eye – whether strained and linearly disjunctive or relaxed and curvilinearly flowing – which, in turn produces our aesthetic disposition towards and, subsequently, our understanding of the object.[18] The latter follows anthropomorphic principle and goes further than the first in suggesting that perception works only when we can assign to the object of our observations associations with both our human physiological and psychological states. Or, as Wölfflin writes in referring to the beliefs of his predecessors, 'physical forms possess a character only because we ourselves possess a body'. If meaning can be found in form, Wölfflin suggests, it is only because in them 'we recognize the expression of a sentient soul'.[19] Embedded in his commentary, Wölfflin takes steps with which he first moves his argument on architecture to an experience of space as opposed to an apprehension of form; and finally, opens the possibility of thinking architecture as being possessed, in itself, of a vital force.[20] He further provides commentary on the optic-centric basis of perception in Rudolf Lotze, and offers a correction, writing: 'it hardly needs to be added that we do not experience architectural creations in merely geometric terms

but rather as massive forms'.[21] Architecture, according to Wölfflin, must be seen as possessing force, and he uses terms such as 'will' and 'life' in defining what he will discuss as 'force of form' (*Formkraft*). He writes that we sense a 'formative force in every architectural creation, only it comes from within rather than without, like a creative will that fashions our own body'.[22]

The goal is not the denial of matter but simply the organic structuring of it.[23] He uses the term impression to indicate something more than the more commonly applied term 'expression'. In Wölfflin impression denotes the effect of what we receive from an object and expression that which we understand as issuing from an object, or a body.[24] Going directly to the heart of the matter he asks: how is it possible for us to 'penetrate the object with our bodily feeling?'[25] He insists that the architectural 'impression' is something other than that which can be accounted for merely with the reckoning eye; that certainly, impression is based on a direct bodily feeling. But what this bodily feeling is, and how it is that it can be thought beyond the incorporating, the projected embodiments, of mind, into otherwise inanimate form is something that Wölfflin does not fully resolve. The argument Wölfflin is developing is that when a body encounters other bodies that it does not merely respond with imagination, nor by receiving physical excitations determined by a psychological mood, but that 'psychological and physical activities run parallel'. He argues that this problem, of what might be described as subject/object directionality, marks the very 'limit of all science'.[26] Wölfflin's investigation may well provide the first vitalist account of architecture. Many consider it a decisive work in thinking towards an account of the psychology of architecture; it both follows the consequences of the empirically founded aesthetic of his contemporaries, and also moves towards the difficulty of expression and agency for matter.

Just a few years later, in 1889, Bergson published his first major work *Time and Free Will,* the first chapter of which will also take up aesthetic feeling as derived from sympathy over expression and suggestion over impression. While he does not offer an extended discussion of architecture, the aesthetic feeling brought by objects of art brings a 'suggestion of a possible movement towards ourselves, of a virtual and even nascent sympathy.' [27] Bergson's aesthetic feeling offers a precursor to what will later come to be discussed as (aesthetic) *affect*. These directions are later taken up by Deleuze in his nominated 'higher empiricism' which emphasizes more directly the relation of aesthetics and philosophy reconfigured to a practice of expression as creation.[28] Contrary to the German aesthetic theories, for Husserl – the founder of phenomenology – the examination of mental states was a task for philosophers and not for psychologist, and, a fortiori, the examination of aesthetic experience. He also argued ardently against 'psychologism', going so far as signing a petition in 1912 against the appointment of psychologists to the Chairs of Philosophy. He clearly

rejects the complete parallelism of the physical and the psychical as advocated by Ernst Mach where psychologists should seek for correlation between sensations and associated nervous processes, which alone is the specification of the conditions of appearance of a given phenomenon, a rejection which he shares with Vladimir Lenin against Machian positivism.[29]

Maurice Merleau-Ponty in his searing critique of behaviourism and Gestalt offers a significant and extended account of perception which is faithful to Husserl's position.[30] Husserl regards intentionality as a fundamental property of consciousness and the principle theme of phenomenology. The significant feature of our 'mental life' is that it is about something. We are conscious as living beings of physical objects, ourselves, other persons, abstract objects, numbers and propositions, and of anything else we bring before our minds. Each mental state is in this way a representation of something other than itself and gives us a sense of something. However, some states could be seen alternatively (as not about something); for instance, euphoria, pain, dizziness, and the question of the representational remains problematic in Husserl as an account of awareness, as for Husserl only awareness is intentional.[31] The question arises, how, in such an account, can a materialist claim for mind be supported? If our mental states also have a causative role in bringing other kinds of intentionality into existence, or at least allowing one to speak of an expressiveness for example of matter; then the question would be: how is mind related to ordinary objects? Generally speaking, this characteristic of mind being 'of' or 'about' something is 'intentionality'. On this account, Gilles Deleuze has shown that contemporary to Husserl, Bergson responds to this crisis of psychology precisely on the issue of consciousness. Suggesting that for Bergson 'things are'; replacing the above formulation – awareness is consciousness *of* something, with the proposition that consciousness *is* something. [32]

That said, searching for alternatives to phenomenological interpretations (often understood as a return to humanism in rejection of technological determinism), both architecture practitioners and theorist have raised questions pertaining to what was generally understood as theories of 'becoming' over those of 'being'.[33] As mentioned above, such questions developed the possibilities of sensation, perception and affect as brought to bear on concepts related to the body. One turn in thinking the body has been situated in (post-structuralist) cultural theory, arguing the limits of the body as a constructed 'Subject' (subjugated, or without subjectivism), conceived as a discursive body.[34] However, attempts to break from traditional phenomenological investigations into perception (the sensing, sensorial body) are problematic precisely because each exercise of isolating the exception from dominant ideologies forces a resituating of the body, or a reconstituting of the constructed Subjects, within the very structural framework from which it sought to extricate itself. In other words,

these theories of the Subject (perception-expression-experience), which were potentially open to principles of 'becoming' – transformative experiences, dynamic processes of change (body-sensation-perception-affect) fell back into the situated (place, locatedness) of the phenomenological being-in-the-world. A different development, situated in materialist and vitalist philosophy, advance the potential of the body as dynamic and emergent 'Individual' (individuated, haecceities), conceived as a pre-discursive body.[35]

In many ways the above precursors, plus the influence/inspiration of Bergson's 'double progression', inform each chapter in this volume. For instance:

Vitalism, as discussed in Chapter One, 'Live Space', is addressed not only through the primary readings (Bergson/vitalism, Deleuze/emergence, Spinoza/conatus, Varela/autopoiesis, etcetera), but, with the help of Scott Lash, rethinks the nature of substance and form, through a vitalist sociology. This is based on certain readings of Karl Marx and Georg Simmel. And, in developing an argument on value-substance and life-form we argue that Marx provides a reading of labour that can be seen as organic and that Simmel provides a theory of value that should be seen as concrete, corporeal, and also mutating; basically, as substance or information capitalism's 'real' and with life-form as the informational symbolic. This account offers implications for both the 'live- and not-so-live' space of the global information city, or global information space. A position taken up in great detail in the final chapter of this volume. Such forms of capitalism operate in extensive and highly dispersed networks, in so-called 'pure flow' and 'pure flux'. It becomes undeniable that theories of the 'spaces of flows' – which have long been defined primarily by the empty surface and as spaces of abstraction – are not adequate to address these concerns. In this chapter we suggest instead, a reading of the 'vitalist-city' as one is that engaged with a theory of 'energy' (everything has a metabolic cost) and with the specific 'flows that traverse it'. For this we draw on a Bernhard Riemann-Bergson-Deleuze interpretation of multiplicity – particularly that of the 'continuous (Bergson) or virtual (Deleuze) multiplicity'. Thus, working through Bergson's *Matter and Memory* and his notion of *durée* we examine what Deleuze has referred to as Bergson's 'matter-image-ontology', whereby matter and image are ultimately collapsed. Here, immanent representation just seems to correspond to life-forms in dreams and memories, to forms in the city that imagine something other than that which can be said to merely repeat.

Concepts as they are related to materialist philosophy come under fire the moment the question of individuality and commonality are set against notions of the body as subject, or subjectivity in all its guises. In Chapter Two, 'A Cosmopolitan View on Thinking and Being-in-Common', the issues of subject formation are taken up

with respect to individuality and commonality regarding the city and the rights of belonging that it should offer *both* the domestic resident and the foreigner. The city as material practice is discussed through the work of Ulrich Beck's *Cosmopolitan Vision*. This chapter can be seen as eccentric to the other four chapters in that my frame of reference for my retort to Beck comes not from the Deleuze/Foucault axis that is typically deployed elsewhere in this collection but from the work of Jean-Luc Nancy and Étienne Balibar. Nancy offers a nuanced and considered account that has no need to situate the social with the individual (subject or subjectivity), bringing the 'we' to the forefront, not after the construction of the 'I', but prior. However, what is crucial on this account is to understand that the 'we' is not made up of predetermined and inclusive groups (the 'we' of we versus them), it is constituted by mutual abandonment of constrains and an opening to each other. This is different from the recognition of the *Other* which relies on the reconstitution of the constructed subject as mentioned just above. Balibar's work offers one of the most significant contemporary reading of globalization, migration and transnational citizenship that significantly contributes to expand the idea of cosmopolitanism beyond the dichotomies and modalities of multiculturalism or the conflation of cultural identity and practice with politics. What these two authors share are arguments that challenge notions of sovereignty and identity politics.

The notion of a double progression includes, either implicitly or explicitly, notions of the virtual and the role it plays within theories of emergence or the question of how something new can be said to (be)come into being (assemblages both striated and smooth). While Henri Lefebvre may seem like an unlikely source for an exploration of virtual emergence in urban theory, in Chapter Three, 'On the Virtual: Lefebvre and the Urban Problematic', we find that his *problématique*, and the complexity in which it is developed, allows for an inquiry into the distinction between logos and intuition, between the problem of thinking and thought as identified above. This chapter works primarily from Lefebvre's *The Urban Revolution* in order to question the nature of urban space and '*the urban*'.[36] The city is no longer recognizable as a singular entity (a unity with respect to multiplicities). Urban reality manifests as fragmentary, shapeless, and the 'urban phenomenon' locates itself at a *point of articulation* of widely, globally dispersed processes. For Lefebvre, this is a 'form without content' and, as such, the city is incapable of creation but does, in itself, 'centralize creation' by providing the situation for exchange, encounter, assembly (simultaneities) to take place. We examine these issues with several theoretical filters in Foucault and Deleuze by looking at distributions of power relations – and their ability to generate new forms of relations (articulations) – through both visible and invisible (material and immaterial) structures of logic and practices.

Chapter four, 'Benjamin and Bergson: Memory Matters', addresses what Benjamin notably referrers to as fundamental structures of change in experience resulting from new modes of human sense perception. In order to take up the problem of experience Benjamin turns in many of his writings to Bergson; and in his work *On Some Motifs in Baudelaire* he turns to Marcel Proust. In this chapter we will attempt to rethink the relation between the 'pure memory' of Bergson and the 'involuntary memory' of Proust. Of course, in writing on Baudelaire Benjamin situates both sensation and memory in the modern metropolis with all the sensorial impact that it inflicted. Thus, the issue of shock (Benjamin's *Schockerlebnis*), its impact on both body and mind (as well as the central nervous system), how these forces are processed, inflected, and deflected through consciousness leads, among other things, to issues related to memory, perception and attention. This goes beyond the turn in experience to an intelligence which reflects (intuition) and, thus is enlarged and has gone beyond the turn of utility (intellect).[37] It is 'a consciousness that has virtually re-conquered itself. But still the virtual has to become actual'.[38] Naturally, Bergson waivers on this point and reminds us that 'the intellect is not made to think *evolution'*; it must suffice to represent *becoming* as a series of *states,* to stable reconstructions which, for Bergson, thus 'lets what is *new* in each moment of a history escape.' [39]

In another turn, aesthetic affect does not place us in a position, but in a disposition towards action as opposed to awareness. In Deleuzian terms affects are 'becomings'; and as such they are dynamic, plastic and emergent. On this account aesthetic affect also attempts to free itself form the embedding of aesthetic experience in language (discourse) and symbolism (representation) as found in both phenomenology following Martin Heidegger and post-structuralism following Subject theories. In this sense, aesthetic affect should not be confused with emotion or feeling (though it has a correlation with sensation). As Brian Massumi points out, in reading the notion of affect through Bergson and Deleuze we must understand affect as clearly differentiated from emotions and feeling. Emotions, in this reading, are discrete, they are expressive of identifiable qualities, thus they are, in their own way, representational. Affects, conversely, are pure vitality, a continuous and vibrating release of potentialities, undulating between sensations and states.[40] Of course, in addition to sensation and affect, memory and attention can be seen as crucial in discussing the role of experience.

This leads to Chapter Five, 'Architecture & Mind in the Age of Information and Communication'. Thinking on this inherently socio-political relation between forms and forms of communication utilize a twofold interface generating new modes of logic of representation. Perhaps this is most easily exemplified in the global marketplace, which, with the help of the continuing scientific research on perception and cognition, has successfully created powerful complex networks of attention which allow for the manufacture of explicit connectiveness that further define both political and aesthetic regimes, which effectively determine the organization of the senses. It is in this sense that Maurizio Lazzarato discusses Deleuze's 'societies of control', mediated as they are by technology, whereby power relations can operate through 'action at a distance … through the brain's power to affect and become affected'.[41] Drawing on Lazzarato's suggestion that Foucault's analysis of 'disciplinary society' – institutions aiming at the reproduction of populations (*bios*, bio-politics) – benefits greatly by extending this theoretical framework to include Deleuze's analysis of 'societies of control' – referring to disciplinary institutions in crisis, forming modulations in behaviours of persons (*nous*, noopolitics), implying another manner of investigating power and its impact on both society and individuals (individuation of/into 'dividuals'). This relates directly to aesthetic experience acting on both bodily affect – dynamism and the potential for continuous (intensive) change – and simultaneously operating on mind or mental disposition (here *bios* and *nous* collapse all distinctions).[42] Bergson's philosophy of difference, Lazzarato suggests, is the 'first to tackle the new molecular biology and the studies on the brain. Bergson's work concerns the living not only because it directly confronts biology and evolutionary theory, but because of his research on memory, time and its modalities of action: the virtual and the actual.'[43]

In fact, the history of this thought and its image is what Deleuze has referred to as Noo-logy. Or with Jacques Rancière, the 'distribution of the sensible' as this relates to 'laws governing the sensible order that parcels out places and forms of participation in a common world'.[44] Or, for instance, 'phatic stimuli' (Paul Virilio); which have evolved into highly attention-grabbing conglomerates of stimuli that act as multiplicities and operate beyond the sensorium reaching into the folded gyri and sulci of the brain itself. We are speaking here of intense, designed, repetitive stimuli and networks of stimuli acting in concert; for instance, the worldwide relay stations of global media can stimulate certain conditions in the brain preferentially. As such the brain might become sculpted (Gerald Edelman) by the conditions of built space through which and upon which mediated environments operate. Over time such changes could, in fact, change the very structure of the brain (Terrence Deacon).[45]

In 'Architecture & Mind' we explore recent ideas emanating from neuroscience. The theories of neuronal group selection and the neural constructivist approach for example, have been linked to evolving ideas in philosophy, cultural and media studies. The former theory provides explanations for the way in which the evolving modes of perception are the result of Darwinian pressures which sculpt initially through their effect on the individual and then upon populations, whereby new forms of neural architectonics provide the brain with new opportunities for thought and, perhaps more importantly, imagination. The latter, constructivist account, posits a dynamic interaction between neural growth and environmentally derived neural activity. The first, providing a mechanist doctrine, the latter a constructivist account. Parallels in Bergson are developed in *Creative Evolution* through a dual account – 'two kinds of order' – of Darwinian determinism (mechanist) and Lamarckian finalism (inheritance). Here, both principles assume a linearity, or rather a directionality of forces which subsume the past and the future in the calculable function of the present. The primary difference being that while mechanism pushes (causally) from behind, finalism pulls (affectively) from the front. It is worth noting that these two kinds of orders are developed with respect to the two contrary philosophical positions of idealism and realism. Bergson writes: 'If order did not appear to us as a conquest over something, or as an addition to something (which something is thought to be the "absence of order"), ancient realism would not have spoken of a "matter" to which the Idea superadded itself, nor would modern idealism have supposed a "sensuous manifold" that the understanding organizes into nature.'[46] In other words, all order is contingent.

We can also speak here of sovereignty, that a body, whether absolute or popular, local or global, that has jurisdiction over a territory or a group of people, today organizes this distribution with sophisticated apparatuses that are reminiscent of the (Foucauldian) 'Society of Control' expressed in Michael Hardt's and Tony Negri's *Empire* and Gilles Deleuze's *Foucault*.[47] Here, the logics of perception and experience are no longer materialistically defined only by contours of geometric and linear time and space arranged hierarchically in a rigid lattice but rather follow curved, non-linear Riemannian paradigms that are expressed in complicated, non-hierarchical, rhizomatic flows. The Guggenheim Bilbao, which generated what became known as the 'Bilbao Effect', not only innovated a new form or architecture, but advanced the function of architecture as an economic generator of cultural industry. This impacts not only the city and the life of its inhabitants, but issues forward a new ethos as well. Architecture exhibiting political, economic, cultural bio-power. Of course, establishing a relationship of correspondences at a distance between the 'sayable and the visible' (Rancière) or 'statements and visibilities' (Foucault) is an issue that equally underpins much of the work presented in the following chapters.

Finally, it should be said that with the following chapters we neither believe that the partial view we have presented offers an exhaustive theoretical treatment of the concepts presented, nor are we attempting make a conclusive statement. Thinking across, with and through such seemingly divergent discourses and disciplines remains emergent and in flux – metastable, as Kelso would have it, with James's image of 'perching' and 'flight'. Our intention is to bring forward topics, concepts, and ideas that are discussed in the work of many cultural and thinkers in order to identify critical issues that might be on interest to both the world of architecture and other worlds.

Notes

1   Gilles Deleuze, *Bergsonism*, trans. Hugh Tomlinson (New York: Zone Books, 1991 [1966]), 49.

2   Ibid., 29.

3   Ibid., 21.

4   Henri Bergson, *Mind Energy: Lectures and Essays*, trans. H. Wildon Carr (Connecticut: Greenwood Press, 1975 [1919]): Orig. *L'Energie spirituelle*; and *Creative Mind*, trans. Mabell L. Andison (New York: Carol Publishing, 1992 [1941]): Orig. *La Pensée et le Mouvant.*

5   Henri Bergson, *Matter and Memory*, trans. N.M. Paul and W.S. Palmer (New York: Zone Books, 1988 [1896]), 71: 'Questions relating to subject and object, to their distinction and their union, should be put in terms of time rather than space.' *Bergsonism,* 11. Deleuze identifies this as the 'third rule' in Bergson's philosophy of Intuition.

6   Edmund Burke, *'*A Philosophical Enquiry Into the Origin of our Ideas of the Sublime and Beautiful', in *The Works of Edmund Burke, Vol. I* (London: George Bell & Sons, 1902), 121.

7   Michael LeBuffe, 'Reason and Body in Spinoza's Metaphysics', in *Spinoza's Philosophy of Ration,* ed. Beth Lord (Edinburgh: Edinburgh University Press, 2018), 19–31.

8   Gilles Deleuze and Claire Parnet, *Dialogues II,* trans. Hugh Tomlinson and Barbara Habberjam (London, New York: Continuum, 2006), 61.

9   Ibid., 64.

10   Gilles Deleuze, *Francis Bacon: The Logic of Sense*, trans. Mark Lester and Charles Stivale (London: The Athlone Press, 2001), 260.

11   It is worth noting that almost a century prior to this, a debate in aesthetic theory arose in England related to ideas of the picturesque and subsequently the movement which would be held generally under the appellation romanticism. The first developed at the end of the eighteenth century in an attempt to provide aesthetic accounts of experience through critiques incorporating psychological attributes such as feeling, imagination and expression. The nature of experience, the non-rational (base instinct) response to the aesthetic ideals of the sublime and the beautiful, was addressed on equal footing as the rational (reasoned intellect).

12   Immanuel Kant, *Critique of the Power of Judgement*, trans. Eric Matthews (The Cambridge Edition of the Works of Immanuel Kant. Cambridge and New York: Cambridge University Press 2000).

13   See: H. F. Mallgrave, and E. Ikonomou, trans., *Empathy, Form and Space: Problems in German Aesthetics, 1873–1893* (Santa Monica: Getty Center for the History of Art and the Humanities, 1994).

14   Heinrich Wölfflin, 'Prolegomena to a Psychology of Architecture (*Prolegomena zu einer Psychologie der Architektur*)', Doctoral Dissertation [1886], in Mallgrave, and Ikonomou, *Empathy, Form and Space,* 149-190.

15   Linda McAlister, *The Development of Franz Brentano's Ethics* (Amsterdam: Rodopi, 1982). Brentano could argue that it was possible to acquire in a single instance the concept without any induction from particular cases because concepts are derived from experience philosophy and natural sciences employ an empirical method. See: Brentano, *Versuch über die Erkenntnis* (Hamburg: 1925), section III 'Das Problem der Induktion'.

16   Franz Brentano, *Aristotle and his world view*, ed. and trans. Rolf George and Roderick Chisolm (Berkeley: University of California Press 1978 [1911]), 43.

17   Mallgrave, and Ikonomou, 'Introduction', in *Empathy, Form Space,* 42.

18   Wölfflin is here following both Adolf Hildebrand and the work of Wilhelm Wundt.

19   Wölfflin, 'Prolegomena', 151–52.

20   Wölfflin does not go so far as to refer to architecture as animate as opposed to inanimate form – or force – a theory that will not be developed until well near the end of the twentieth century with theories that address thinkers such as Henri Bergson and Gilles Deleuze. In this collection, see: 'Live Space'.

21   Wölfflin, 'Prolegomena', 152. It is worth noting that Bergson also discusses the work of Rudolf Lotze with respect to nerve excitation, sensation and cause (different causes acting on the same nerve generate the same excitation, and/or the inverse, the same cause acting on different nerves provokes different sensations). See *Matter and Memory*, 51.

22   Ibid., 161.

23   Ibid., 159.

24   Henri Bergson also identifies these two terms – impression and expression – in his seminal work, *Time and Free Will* (1889), precisely in relation to aesthetic experience; his position here is not unlike Wölfflin's, however, he adds another turn to this arguing that expression can be found in nature and impression (or 'suggestion') found in the arts. He further develops this in relation to architecture, writing that it 'aims at impressing feelings on us rather than expressing them.' [See Chapter I 'The Aesthetic Feelings', 15]

25   Wölfflin, 'Prolegomena', 153.

26   Ibid., 157.

27   Henri Bergson, *An Essay on the Immediate Data of Consciousness*, trans. F. L. Pogson, (London: George Allen & Unwin Ltd., 1921[1889]), 13.

28   Contemporary to Bergson his impact can be seen on, among others, German Expressionism (Max Rapheal); Cubism (Marcel Duchamp); and vitalism read through Bergson's *Creative Evolution* by urban theorists such as Marcel Césa Poëte, Gaston Bardet and Robert Auzelle.

29   See: Ernst Mach, *Space and Geometry: In the Light of Physiological, Psychological and Physical Inquiry*, trans. T. J. McCormack (Mineola: Dover Publications 2004 [1906]). And, *The Analysis of Sensations and the Relation of the Physical to the Psychical*, trans. C. M. Williams (Chicago: Open Court, 1914 [1897]).

30   See: Maurice Merleau-Ponty, *The Structure of Behavior*, trans. A. Fisher (Boston: Beacon Press, 1963 [1942]).

31   Hubert L. Dreyfus, *Husserl, Intentionality and Cognitive Science* (Cambridge MA: MIT Press 1982).

32   Gilles Deleuze, *Bergsonism*. See also: Elisabeth Grosz, *Architecture From the Outside: Essays on Virtual and Real Space* (Cambridge MA: MIT Press, 2001).

33   For Heidegger our comportments are in fact pervaded through and through by assertion, as we inhabit language and this is as much a dwelling as space, it not being so much that we see objects and things but rather we talk about them first, and he argues, we do not say what we see but rather the reverse, we see what one says about the matter. Thus, all perception is interpretation. All visibility belongs to the public realm. Expression is the new way of making the simply given object accessible. For Heidegger no intentionality in the perceptual process is independent of the reality of world, and intentionality has the structure of being in the world, thus, representing actually includes knowing. The perceived is an environmental thing. Intentional relation is here temporal, dynamic, and not just an image, but the showing itself, the manifestation. Heidegger differs profoundly from Bergson in this regard. As with phenomenology, the distinction between consciousness *of* as opposed to consciousness *is*]; so too with Bergson all matter is image. The impact of Heidegger on architecture practice and theory is certainly significant. Whether seen from one of his earliest expositors in architecture, Christian Norberg-Schulz, or later readings through the works of Alberto Pérez-Gómez, Dalibor Vesely and Juhani Pallasmaa, whose work is deeply indebted to phenomenological accounts as provided by Merleau-Ponty as well as Heidegger. Pallasmaa, in perhaps one of his most widely read works, *The Eyes and the Skin: Architecture and the Senses*, echoes a Heideggerian position: 'The timeless task of architecture is to create embodied existential metaphors that concretize and structure man's being in the world. Architecture reflects, materializes and eternalizes ideas and images of ideal life.'(p. 51) Architecture for Pallasmaa provides for a settling of self in world, which in turn allows for an integrated self-identity with things around us. Here architecture provides for a mediation of our senses and structures our perceptions. In my own work, this has been taken this up from a neuroscientific perspective.

34   I discuss this in my Foreword to *Writing and Seeing Architecture: Christian de Portzamparc and Philippe Sollers*, trans. C. Tihanyi (Minneapolis: University of Minnesota Press, 2008). The intellectual trajectory along which these developments took place will be recognizable to anyone familiar with the work of such thinkers as Michel Foucault, Jacques Derrida, Jacques Lacan, Roland Barthes, Julia Kristeva, Georges Bataille and Friedrich Nietzsche.

35   Gilbert Simondon's influence on Deleuze's major works, *Difference and Repetition* (1968), and *The Logic of Sense* (1969) is well known. See, for example: Andrew Iliadis, 'A New Individuation: Deleuze's Simondon Connection', *MediaTropes eJournal,* vol IV, no. 1(2013): 83–100.

36   Henri Lefebvre, *The Urban Revolution,* trans. Robert Bononno (Minneapolis: University of Minnesota, 2003).

37   Deleuze, *Bergsonism,* 28–29.

38   Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: Dover Publications, 1988 [1907]), 159.

39   Bergson, Creative Evolution, 163.

40   Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, London: Duke University Press, 2002).

41 Maurizio Lazzarato, 'The Concepts of Life and the Living in the Societies of Control', in *Deleuze and The Social,* ed. Martin Fuglsang and Bent Meier Sorensen (Edinburgh: Edinburgh University Press, 2006), 171–90.

42 On this point, see Chapter Five, 'From Biopolitics to Noopolitics'.

43 Lazzarato, 'The Concepts of Life and the Living', 184.

44 Jacques Rancière, *The Politics of Aesthetics: The Distribution of the Sensible,* trans. Gabriel Rockhill (New York: Continuum, 2004).

45 See, respectively:
    Paul Virilio, *The Vision Machine,* trans. Julie Rose (Bloomington: Indiana University Press, 1994). See Chapter Five 'The Vision Machine'.
    Gerald Edelman, *The Mindful Brain: The Mindful Brain: Cortical Organization and the Group-Selective Theory of Higher Brain Function,* (Cambridge MA: MIT Press, 1978).
    Terrence W. Deacon, *The Symbolic Species: The Co-evolution of Language and the Brain* (New York: W.W. Norton & Company Inc., 1998).

46 Henri Bergson, *Creative Evolution*, 232.

47 Gilles Deleuze, *Foucault*, trans. Sean Hand (Minneapolis: University of Minnesota Press, 1988 [1986]).
    Michael Hardt and Antonio Negri, *Empire* (Cambridge: Harvard University Press, 2000).

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1 Live Space

Living labour time reproduces nothing more than that part of objectified labour time (of capital) which appears as an equivalent for the power of disposition over living labour capacity, and which, therefore, as an equivalent, must replace the labour time objectified in this labouring capacity, i.e. replace the production costs of the living labour capacities, in other words, must keep the workers alive as workers. . . . There is an indifference on the part of the substance [Stoff] towards the form, which develops out of merely objectified labour time, in whose objective existence labour has become merely the vanished, external form of its natural substance, existing merely in the external form of the substantial [das Stoffliche]. (Marx, Grundrisse)[1]

This chapter puts forward considerations on a vitalist theory of space, on what we will refer to as 'live-space'. Beginning what might be called a vitalist sociology or a _Lebenssoziologie,_ we might re-think the sociological classics: alongside and partially instead of works of Emile Durkheim and Max Weber would be those of Gabriel Tarde and Georg Simmel. Not the early Simmel, nor even especially the Simmel on the city. But the Simmel of Nietzsche and Schopenhauer and Lebensanschauungen, of the Bergson essays and _Grundfragen der Soziologie._[2] Henri Bergson spoke at Tarde's funeral, while, in fact, Durkheim saw Tarde as an avowed enemy, perhaps the enemy. Indeed, the école durkheimienne destroyed for a century Tarde's legacy, yet by the late 1990s we find that Tarde's books are reprinted in France.[3] Maurizio Lazzarato, from the French revue, _Multitudes_, published a book on Tarde, _Puissances de l'invention._[4] For Lazzarato, the 'multitudes', unlike the atomized mass of the people or the proletariat, are a 'monadized mass'. Similarly, what we are here referring to as live-space, can be seen in the sense of Stefano Boeri, whereby multiplicity, live-space comprises not just humans but at the same time non-humans; finally live-space is understood as a space of difference. Thus, contemporary space as multiplicity is at the same time multitude-inous. The idea of live space that we will discuss here might somehow be grounded in the philosophy or ontology of difference – difference not in the sense of Derrida or Heidegger's ontological difference, but as a much more immanentist ontology; in that of vitalism's usual suspects: Spinoza-Nietzsche-Bergson-Marcel Duchamp-Deleuze-Negri. We are interested in a _'Weltanschauung_ of difference' – and how this underlies the shift from manufacturing to informational, or what we will call for the purposes of this chapter, cognitive capitalism.[5] This chapter will also have implications for the live- and not-so-live- space of the global information city, or global information space.[6]

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Substance and Form

The third classical vitalist sociologist is Marx, or to be more precise, one particular period of Marx, in which he addresses one significant aspect. This period is the Marx of the *Grundrisse der Kritik der Politischen Ökonomie*. It is in the *Grundrisse* that Marx famously speaks of the *value-form* (*Wertform*): that is, not just exchange value but the value-form. He also there speaks of value-*substance* (*Wertsubstanz*). The value-form, though it is reflected on all levels of the social formation, remains along the lines of exchange-value in that it is abstract and homogenous. Value substance is labour, but it is not homogeneous labour, nor is it labour-power as a use-value primarily as a utility for the capitalist. It is labour as substance. It is organic labour, at least in the sense that its time and space are full and thick. Value-substance is largely constitutive of the real in manufacturing capitalism; and like the real it is unspoken, not fully graspable or utterable. Value-form conversely comes to constitute manufacturing capitalism's symbolic. If in the *Grundrisse* Marx is *avant la lettre* a vitalist, then he is a labour-*puissance* vitalist. Indeed, labour for Marx is not just the source of value, but the source of energy. Labour-power is the energy force for the whole social formation. It is, most certainly, the 'motor' of history. Thus, in order to speak of live-space there must be some notion of energy source.

Georg Simmel will also use the form and substance juxtaposition. He will obsess over a theory of value. This however is not a labour theory of value but a life theory of value. Simmel is a life-force vitalist: he will speak not of value-form and value-substance but instead of life-form (*Lebensform*) and life-substance (*Lebenssubstanz*). Perhaps this should be understood to be more 'information-age' than 'manufacturing-age' thinking. Here we have concrete, corporeal, plastic, mutating life – which of course embraces death – as substance, as information capitalism's real, and life-form as the informational symbolic. We see here Foucauldian and informational bio-power prefigured in Simmel: bio-power of course as *pouvoir* and not *puissance* (which surely is the Negrian *problématique* on Spinoza). In this sense value in the manufacturing age is based on labour-power (*pouvoir*) not so much as work force (*puissance de travail*); and here *pouvoir* connects to the value-form which extends not just to capitalist exchange value but to the abstract law of the state as well as its abstract, hence legal rational (that is, not at all Kafkaesque) bureaucracy. Substance, then, is indeed here *puissance*; but, then, what of *matter*, is it similarly to be considered *puissance*? And what then of 'life' in the information age? Life is no doubt force (*puissance*) – hence this notion of the body and architecture, in which architecture is understood by many, as technique (*techne*) or craft. Indubitably then technique, perhaps rather than knowledge, is *pouvoir*. But at the same time, as we will see, technique is also *puissance*. Knowledge is to logic what technique is to the algorithm. We want to understand technique in

terms of technologization of both science and art. Do we have aesthetic algorithms? Does conceptual art operate through aesthetic algorithms? All these questions will be returned to at various moments further on. But, for now, let us begin to explore the issue of *form*.

First, the value-form in all its modalities is linear. That is, *pouvoir* is linear in industrial capitalism. In cognitive capitalism it may largely be non-linear (that is, through the life-forms, indeed through forms of life). Put another way, such power in industrial capitalism is reproductive, not merely repetitive. The family, social class (for Durkheim and Jacques Lacan), works through reproduction. In Pierre Bourdieu the symbolic itself equally works through reproduction.[7] In cognitive capitalism, on the other hand, power is productive; it works not through identity but through the production of difference. More importantly however, we will raise another question about form: that is, can we do without form? In his *Schopenhauer and Nietzsche*, Simmel contrasts the two German thinkers. Schopenhauer has a theory of pure will: *pure will as substance with no form*. This pure will was akin to the Kantian *noumenon*, the essence of substance as contingency. Simmel had trouble with Schopenhauer's 'pure' will. Nietzsche, conversely, had will or flux on the one hand and form on the other. You had two distinct categories of form – often in the shape of moralities: master moralities and slave moralities, or, life-enhancing and life-destroying moralities. What came between Schopenhauer and Nietzsche, Simmel notes, is Darwin. Thus, the Übermensch itself is form, it is not so much the achievement – through reflexive or creative evolution, as through a certain production of difference – of a higher being. It is rather form as becoming – form as reflexive becoming – of the human body doing work on the self. Thus, Simmel would have not a lot of time for a problematics of pure flux, of pure flow. He would have little time for Georges Bataille's economy of formlessness (économie générale *l'informe*)[8]; or even a Deleuzian politics of 'lines of flight', or, much less, the idea of a city of only of flows and circulation. Indeed, in this sense, live-space, or any sort of vitalist city cannot be conceived as just a space of flows. There is no question that the live-space of the global city draws *energy* from the flows that traverse it: especially from flows of immigrants, but also of images, finance and the like. It must hence be understood as a continuous *multiplicity*.[9] Here we move from the city as Cartesian mechanism in what Lefebvre calls representational space to the city as lived and living self-organization. This is the vitalist city, or the virtual *problématique* of the urban.[10] This is live-space. But this is the city considered as multiplicity, as *Mannigfaltigkeit*. It draws its energy sources from the outside and converts them to include to higher levels of complexity. Perhaps then it does make sense to speak of *urban energy*: of the city as source of energy, much like the hard drive is a source of computing energy. Spaces of flows – as we have them from David Harvey to Manuel Castells – are on the surface empty, abstract spaces. The informational city

is, as mentioned already by Stefano Boeri, a multiplicity. Or with Sanford Kwinter, a manifold, following Riemann an n-dimensional topological space.[11] Things move through informational space, through this manifold, like blood, or excrement or a virus moves through the thickness of a body. Hence the organism that is live-space takes in energy on the one side to produce not just difference but also to produce (excrete) junk-space.[12]

We are questioning the manner in which we can think substance and form in the information age; in a sense, it addresses the problematics of flow in contemporary theory. From Castells to actor-network theory (Bruno Latour and John Law's 'materialist-semiology') to Arjun Appadurai to even to Hardt and Negri's *Empire*; there is something very unsatisfactory about what sometimes amounts to a problematic of pure flow. Pure flow is like pure contingency, and network terminals are not enough to constitute it. What is needed is a new notion of form. Yet, what forms, indeed what institutional forms, are to replace the old ones in an age of flows? Here is where the urgent question of form comes in. Subsequently, we need to think further, whether even the notion of flow is oversimplified. Information theory is equally unsatisfactory, with its ideas of noise and pattern or noise and form. Can flow be conceived as pure noise, or can substance be thought through pure contingency? We do not think this makes sense, for substance is also *puissance*. It needs to have reference to an energy source; as already mentioned, any idea of live-space will need an energy-source.

We might also suggest that there is a problem with the *pure* as it is understood in terms of a Bergsonian or Deleuzian position. In this you have flow, flux, or the like but form is reduced to event (pure reserve), at least in the latter of the two. You have a body without organs and affective intensities on the body without organs; but you do not have the figures of dreams – a point we will return to shortly. Everything, in this sense, is potentially a conductor of intensities. The idea of an event architecture has become popular; but we are not at all convinced that form and event are the same thing. In Benjamin, for example, form and event (*Ereignis*) are very different. Perhaps, then, we still need a doctrine as form of form, however transmogrified it may be. Forms may now become non-linear and mutating, labile and the like; but they are still form. Multiplicities, at least of the qualitative type, are heterogeneous, mobile s*ubstance*: substance rather than matter. But can we then say that what multiplicities produce, what emerges from them, is only the event? Why not form? Form can arise from substance without an author, without a subject. Indeed, this was the idea in antiquity, so unlike the Kantian imposition of form on chaos. Thus we don't want to see flow or flux as pure contingency. That is, unless we open up the idea of the event to include almost anything, in other words, if we extend the event to comprise any eruption of real, full, plasmatic time into abstract, clock and Newtonian

time, or what in Bergson is described as *space*. But does the event not also typically signify speed and immediacy, like in Walter Benjamin's *Schockerlebnis*. The real time of form can be thought otherwise, as in its slowness as well. Breaking with Newtonian time for carnival may be *événementiel*; but what about sleeping in on weekends, what about couch potato-ing, and meditation? A theory of slow-space needs to be developed as well.[13]

In the book *The Harvard Guide to Shopping* there is a very instructive interchange between Rem Koolhaas and Robert Venturi. Here Koolhaas is surprised when Venturi says that his early books, *Complexity and Contradiction,* and *Learning from Las Vegas* with Denise Scott Brown, are about cultural form. Koolhaas states that in contrast, *Delirious New York* is about 'urban substance'. What is at stake here? What can be meant by substance? What by form? In neither case are we necessary looking at identitarian concepts. Substance is here neither formless – à la Immanuel Kant and his idea of formless matter – nor is substance pure flow. For Koolhaas though, urban substance *is delirious*. It is also nothing like *Bausubstanz*, the heavy matter of mansion blocks in Berlin, built on Haussmann-like presuppositions, only heavier somehow. The skyscrapers of delirious New York are not substantial vernacular: not tectonic stuff (*Stoff*). They are light, mobile, material and immaterial at the same time. The substance of live-space is not like Theodor Adorno's artist (Pablo Picasso/ Henri Matisse) working through the aesthetic material: it is lighter than this. We are looking instead, in a sense, at a sort of conceptual architecture, a conceptual urbanism, an architecture of motion and change in which the flows and flux of movement and exchange constitute the urban fabric. Not empty space or abstract space nor heavy *Bausubstanz* as space; but a live-space. Delirium is not a dream. It is not even a daydream. It connects not necessarily to involuntary memory (*mémoire involontaire*). Delirium is perhaps a horizon as future. But horizon not as flat de-natured screen; instead it is a horizon that goes all squishy, labile and organic like the cassette in David Cronenberg's *Videodrome.* Then there is Venturi on form. Pop art and form: life, contemporary conceptual art and popular culture. Algorithmic culture: software, art gone algorithmic like design, instructions as with procedure attached. Art becomes technique: technique and production of difference.

Body and Spirit in Matter and Memory

On the back cover of the Zone Books edition of Henri Bergson's *Matter and Memory* is a citation from Walter Benjamin.[14] Bergson clearly influenced Benjamin's notion of involuntary memory. Bergson was, as Benjamin, Deleuze and many others have noted, also a major influence on Proust, again *inter alia* on his idea of *mémoire involontaire*.[15] This is unsettling for vitalist theory because Benjamin's and Proust's

notions are famously dualist. *Mémoire involontaire* sets up a parallel sort of dream world, a world complementary and disruptive to the calculating workaday ego of Newtonian time. Yet coming to Bergson, after reading commentary from such writers as Keith Ansell-Pearson and Sanford Kwinter (to name only two), one would understand Bergson as a monist: steeped and rooted in the philosophy of immanence, and not transcendence. Yet, at least as concerns *Matter and Memory*, it would seem that Benjamin, Proust, and indeed Deleuze support a dualist account of Bergsonian thinking.[16] Indeed, Bergson states at the outset of the book, or at least he claims that his philosophy works through dualist accounts, and that through the notion of memory he will resolve the mind-body problem, or as he puts it, that memory will be shown to provide the 'intersection between mind and matter'.[17] And his work does certainly provide such a convincing bridge to the mind-body disjunction; with arguments which no other dualist accounts have ever come close to producing. Yet, he does not answer his stated aim in the manner which he initially claims, solely through the notion of memory. Instead the bridge that Bergson will build will be constructed in a double movement between representation and experience. And with this the mind-body duality will no longer remain consigned to a vulgar dualism, but will be solved in terms of his celebrated notion of *durée*.

Bergson offers a powerfully sharp analytic distinction between the notions of matter and memory (thought traditionally as body and soul). Yet, the famous first chapter 'Of the Selection of Images for Conscious Presentation. What our Body Means and Does' – which is such a basis for Deleuze's *Bergsonism* and his cinema books – is almost totally devoted to matter, or more precisely to developing a theory of the image as it relates to perception, which for Bergson, at least at this point, is more natural than cultural.[18] There is, on the one hand, cerebral substance, the body, the real, the image, vibration (movement, sensation) the brain and utility. There is, on the other, mind, culture, spirit, the ideal. Before, analytically, memory is introduced at all we have a notion of matter. It is fully within the sphere of matter the body perceives matter as image. However, our own bodies too are equally part of this matter, yet they operate in a privileged state in that we do not only know our bodies from without (as pure percept) but from within in the form of sensation and feeling (as affect). This body with cerebral substance perceives matter, indeed *knows* matter not through merely making a representation of it, but through its possible action on things and its ability to be acted upon by them. Bergson never stops arguing against philosophers or men of science who presume that cerebral substance works through either the construction (epiphenomenalism) or the recognition (parallelism) of an image *of* matter; for Bergson, matter *is* image.[19] Mind is not spatially separate from matter. Bergson opposes realist and idealist philosophy in that for realism the brain as substance accounts for the creating of representation; but, also because in both realism and idealism the mind is spatially separate from matter. Matter perceives

matter, not through how it represents it, but through action, and through images that are part of external matter itself. Matter is then understood as the carrier of action and not as the substratum of knowledge.

The transition from image to representation is formulated in terms of perception and later will be thought as being bridged through memory. This, at the same time, can be considered a transition from sensation to sense, from nature to culture. It is in this sense that Bergson breaks surely with the subject-object dualism, or subject-object notions of transcendence, for what is indeed a philosophy of immanence. That is, the material subject-body is in the same world, the same 'field' as the material object. He does not symbolize it or imagine a representation of it, but he grasps a piece of it in the real. In other words, to think an associationist relation between the concrete and symbolic reconstruction of it is, as he puts it, to 'confuse the explanation of the fact with the fact itself.'[20]

The body in the world with the object perceives only that aspect of it that interests it. This is effectively a form of utility; but not Newtonian and not a utilitarianism of the possessive individual or ego, but of an immanent body that is in the world, having an attitude towards the object that has to do with the possible action of the (privileged) body. This aspect of matter that the interested body-with-attitude perceives is the image. This is an image that is real. Furthermore, the body-with-attitude perceives this matter-image not through representing it but through movement, sensation and vibrations. Hence Deleuze is right to speak about a matter-image ontology.[21] The body penetrated into the real of matter (Bergson) in the sense that the camera, in the view of Deleuze, surgically carves out a bit of the real (Benjamin). That bit of the real is image – it is image not as symbolic, or semiotic, or even indexical but as a slice, what Bergson refers to elsewhere as a 'partial view' of the real.[22] This opens onto the distinction between difference and repetition, on the living and the static (in Deleuze as well as Bergson), and we thus understand it as already stating something about how the body relates to (non-corporeal) matter-image in informational space.

Bergsonian Memory, understood as the 'intersection' of mind and matter, also proceeds through a form of double progression. In one sense (actual) memory is immediate, in that in its most concentrated state it provides for an automatic response to (unconscious) bodily states. Here memory no longer 'represents' our past, it 'acts' it. In another sense (virtual) memory is where perception is both preserved and prolonged and related to consciousness. Memory, in terms of recollection, is also the representation of *absent* objects, of duration and *temps perdu*. Memory does work through representation, but only at the juncture where the object is actually perceived; prior to perception, then, an image may have presence without representation. When the object is not there, image (matter) becomes

representation (form). As Bergson writes in *Matter and Memory,* 'Representation is there, but always virtual – being neutralized, at the very moment when it might become actual, by the obligation to continue itself and to lose itself in something else'.[23] There is a different rhythm of duration in memory than in perception. Memory works through interior perception and its rhythm (Alfred North Whitehead calls this self-stimulation). In short, the more reflexive, the more self-organizing is matter, the more contracted is its working through memory; while the more reflective, the more matter allows for indeterminacy, the more relaxed is its working through memory.

Bergson also saw memory partly as unconscious, though it was a function of consciousness rather than the brain. Yet memory is in representations; not Cartesian representations of abstract time and space, but in the form of what Bergson refers to as 'recollection-images'. They are more like a dream. More like the images in a dream which are also transformed rhythmically (feeling to image, image to word). The point is that these non-logical, immanent representations seem to correspond to forms. To forms in dreams, to forms in the city, to memory in the city, to memories which imagine as opposed to merely repeat. Hence the ancient in Benjamin's city (in casu Paris) erupts into the modern.

Cognitive Capitalism, Immaterial Labour

We are arguing that it still very much makes sense to think the substance-form distinction: to think the transition from labour substance to life substance. To think of the difference in form that connects to it. To think how urban form as well as urban substance might then be understood as vitalist: as live-space. For instance, recalling that the reflex of the value-form is *property;* the reflex of the life-form will be intellectual property. We will get back to this shortly when we return to the issue of technique. Form remains so important because, as we have already suggested, the global city and the network society are more than pure flow, pure circulation. It is flow, but it is also hesitation as Bergson would have it, it is similar to what Duchamp called *stoppage*: and these stoppages take on the shape of form, or might we say, the form of form. The problem remains that there is something incredibly immaterial about informational substance: about life-substance. It has so much to do with activity, with reflexivity also in the sense of the triumph of virtuality. In other words, it deals with the virtual-actual axis over that of the possible-real.[24]

As mentioned above with respect to Lazzarato, Tarde's sociology was at the same time a monadology, as Jean-Clet Martin has explained.[25] Additionally, Leibniz's monadology is set up against atomism (for atomism and Descartes simple substance is identity); monadology, simple substance, the monad *is* difference. Yet we wish

to posit difference without a coordinating agency as Leibniz's God so provided; as, indeed, an ontology of immanence and difference. Whereas Bergson's starting point is the I-it of epistemology, Tarde, in correspondence with Simmel, implies a certain I-thou. Though his I-thou can be understood as any two monads: as monads do not so much cause one another but communicate with one another or dominate one another. They form collectives, whether they are molecules or individuals. They are reflexive, and, to a certain extent self-organizing; but other collectives in conflict will have the tendency to disorganize them. Instead of Durkheimian mind-like collective consciousness, for Tarde there is a collective *brain* (at once material and immaterial). But more a naturalist than Durkheim or even Bergson, Tarde would seem closer indeed to Deleuze. In Tarde monads desire: desire is the *puissance* partly behind the *puissance de l'invention*. When desire opens out and connects/communicates with another monad there is affect. This is the moment of will. But there is inevitably also a moment of perception or reflection or let us say a cognitive moment in which monads close down their windows and separate themselves from other monads.

This is a moment similar to that which Bergson identifies in his notion of the interval.[26] This further relates to Lazzarato's idea of immaterial labour and to cognitive capitalism.[27] Immaterial labour produces difference. Material (Marxist) labour produces identity, or is involved in its reproduction. Immaterial labour has the power of creation as *puissance de l'invention.* That is the immaterial labour of those monads comprising the multitudes, the cerebral collective; not that of 'the' proletariat (as a form of identity). Neither collective nor mind but brain is the seat of this *puissance de l'invention.* Energy plus creativity: real multitudes and actual multiplicity. Both live as both are sources of life. Bergson was clear that memory itself was not a source of energy. It came into contact with perception only through what Deleuze would later refer to as 'planes of consciousness'; yet without memory, for Bergson, there could be no perception. Energy-movement was there in matter. Monads (Leibnizian or otherwise) – whether they will combine as multiplicities of urban substance or the multi-uses of collective practice and the collective brain – are produced of difference and are very much real. Here we have issues much more of substance than of form, even if it is a multiplicity of immaterial substance. Nevertheless, there must still be form. Property relation was formal appropriation. Property is form. What about when property relates to an activity as in immaterial production and not to a thing as in material production; how does *pouvoir* then reassemble itself? Form *and* substance: Art, even in the information age, no matter how event-full, no matter where the intervention is, no matter how non-optical, or how conceptual, no matter how virtual. No matter how much it problematizes the interface. Indeed, no matter how architectural form may be: substance *and* form. Does this work as well for media art? At the turn of this century, popular culture within conceptual art has in common with its 1960s predecessor a minimalist conceptualism which remains hermetically sealed;

yet, it is still form. Though in Venturi's sense, it is living form. Lazzarato's worker acts in the elements of form and substance. And this must be the meaning of technique. Science is about form. Art is about form. Technique is the integration of form and substance. Technique is algorithmic: logic plus control. With Kwinter we might agree that all architecture is technique, or technicity in Simondon; but we are less sure that all technique is architecture. In each case, as in intellectual property, there is an intervention of form into substance. Design intensity of the collective brain produces differences. Knowledge – it is all about knowledge – hence *cognitive* capitalism.[28]

Why Cognitive Capitalism?

What we are considering here is the potential meaning of the term reflection in Tarde's sense, or hesitation in Bergson's. Bergson needs a transition, a *turn,* from matter to memory. Matter and memory first stand in a dualism, of course, but he then asks the question: how does matter come to have memory? This is through excitations, stimulations, vibrations, sensations, and so on, transmitted through matter. Matter only has memory in this moment of consciousness. Tarde's moment of 'pulling back'. Bergson's moment of 'standing still'. It is at this moment that there is perception with the absent object. The window is closed. The pattern of movement and vibration turn inward in what Bergson calls affect. In Whitehead it is with the body which becomes reflexive in self-affect, self-stimulation or self-excitement, that matter comes to have memory.[29] Thus, the body enters culture. The body indeed selects images from the environment only at the same time in a moment of self-reflection. But when this self-reflection comes to the level of memory then it is no longer just a utilitarian self-reflection. It is here that we have form. Memory entails form or representation; it is constituted materially but is no longer purely material.

Here we might need to make a brief mention of Kant's third critique, *The Critique of Judgement*, in which nature becomes a finality, that is, not just utilitarian or an instrument. This is not the pure epistemology of the first critique; it is not a question of *Wissen.* It is a question of knowledge in a broader, not logical but perhaps analogical sense. This is what Kant calls *Erkenntnis* as distinct from *Wissen. Wissen* is systematic and logical in a sense that *Erkenntnis* is not. Yet *Erkenntnis* is translated as cognition. And the third and aesthetic critique is about knowledge in this very broad sense. It is about feeling, hence affect in a way that the first critique cannot accommodate. It is subjective rather than objective. It is based in a *sensus communis.* At issue are not logical forms, but subjective, affective forms. The problem, it might be argued, comes only when Kant reabsorbs all of this into transcendence. Hence the *sensus communis* is a 'promised community', a transcendental community. It is, perhaps, its own form of double progression.

As practitioners, what we need to do is bring this into the empirical realm of sense and sensation. Thus our moment of reflection draws on these analogical forms, on our relationship of sensation and affect *to* these analogical forms, these dream images, these ideas and representations that work through both condensation and expansion. We are not here suggesting the concept of *idea* as complementary to that of *sensation*; we are dealing, instead, with 'mental oscillation' and 'sensory harmonics'; with the *movement* of ideas *and* sensations towards difference. This is memory. It has to do with sensation and duration, it is constituted perhaps inevitably through (biological) rhythms of duration. To that internal reference memory is always there to decide how the body – or all bodies – will select images form the environment. But this is cognitive. It works in today's capitalism through design – whether scientific or aesthetic – to produce difference. This difference is form as much as substance. It *is* technique rather than science or art. It takes place in laboratories and studios. In the new lab science becomes technique and research becomes research and development; the resultant form is patented as intellectual property. In the studio art becomes design. It is the principle of the information society: of cognitive capitalism in which labour is transmuted into life. In which labour productive of identity (as stasis) is mutated into life as (vital) productive of difference: live-space. The laboratory and the studio are spreading, as relay points of the flows giving the global information city its multiplicitous topography. The mould for all this – the intervention of form in substance – may have been set, for better or worse, by the architect.

A version of this chapter has appeared under the same title in: *The Body in Architecture*, ed. D. Hauptmann (Rotterdam: 010 Publishers, 2006). The original or chapter was co-authored with Scott Lash.

Notes

1. Karl Marx, *Grundrisse: Foundations for the Critique of Political Economy*, trans. Martin Nicolaus, (London: Penguin Classics, 1993), 285.

2. These works of Simmel can be found in various volumes of Georg Simmel, *Gesamtausgabe*, ed. O. Rammstedt (Frankfurt: Suhrkamp, 1917–1918).

3. Gabriel Tarde, *Monadologie et sociologie* (Paris: Les Empêcheurs de penser en rond, 1999 [1893]). See: Eduardo Viana Vargas, Bruno Latour, et al. Trans. A. Damle, M. Candea "The debate between Tarde and Durkheim," Environment and Planning D: Society and Space, vol. 26 (2008): 761–77. 'Do you recall the discussion between Durkheim and my father at the École des Hautes Études Sociales? Before they had even said a word, one sensed by their faces, their looks, their gestures, the distance that lay between these two men. One knew that such a distance as sheer madness.' Guillaume De Tarde.

4. Maurizio Lazzarato, *Puissances de L'invention: La psychologie économique de Gabriel Tarde contre l économie politique* (Paris: Les Empêcheurs de penser en round, 2002).

5. The term 'cognitive capitalism' comes from Yann Moulier Boutang, editor of *Multitudes*. We want to perhaps extend its usage here: a way in which not just science becomes technique, but also in which art becomes technique in today's capitalism.

6. For a more thorough argument on Simmel in relation to information society, please see: S. Lash, 'Lebenssoziologie: Georg Simmel in the Information Age', *Theory Culture & Society* vol. 22, no. 3 (2005): 1–23.

7. See: Pierre Bourdieu, *Language and Symbolic Power*, trans. G. Raymond and M. Adamson (Cambridge: Polity Press, 1991).

8. See: Georges Bataille, 'Formless,' in *Visions of Excess: Selected Writings*, 1927–1930, trans. Allan Stoeki, C. R. Lovitt and Donald Leslie Jr. (Minneapolis: University of Minnesota Press, 1985 [1929]).

9. This notion of the 'continuous multiplicity' is typically considered to begin with G.B. Riemann (1854 Habilitationsschrift, 'On the hypothesis which provided the grounds of geometry'). Here, too, the idea of a multi-dimensional magnitude, or *Mannigfältigkeit*, is developed. Bergson, in his own right, also develops what he refers to as 'discrete' and 'continuous' multiplicities in Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*, trans. F. L. Pogson (London : George Allen & Unwin Ltd, 1919 [1889]).

10. Lefebvre, *The Urban Revolution*.

11. Sanford Kwinter, *Architectures of Time* (Cambridge: MIT Press, 2001), see Chapter Four.

12. On this point please see Michael Serres's work on the gnomon.

13. Michael Bell and Sze Tsung Leong, eds., *Slow Space* (New York: The Monacelli Press, 1998).

14. Bergson, *Matter and Memory*.

15. Walter Benjamin, 'Some Motifs in Baudelaire', in *Charles Baudelaire, a Lyric Poet in the Era of High Capitalism* (London: Verso 1997).
The original essay was written in 1939 in response to a critique by Theodor Adorno on Benjamin's 'The Paris of the Second Empire in Baudelaire' completed the previous year. It is worth noting that in this essay, Benjamin, in classifying Bergson's philosophy writes: 'Since the end of the last century, philosophy has made a series of attempts to lay hold of the "true" experience as opposed to the kind that manifests itself in the standardized, denatured life of civilized masses. It is customary to classify these efforts under the heading of "philosophy of life" [*Lebensphilosophie*]'.

16. In this chapter we will focus on Bergson's *Matter and Memory*, however a comment on this point of a 'monist' as opposed to 'dualist' reading of Bergson's work should be included. Bergson clearly works through dualist accounts within philosophy; but he does this not so that he can, in the end, maintain them or reframe them as oppositions within his own work. Nor does he work through dualisms in order to bring them together in what may be seen as a form of dialectic synthesis. Dualisms allow Bergson, as Deleuze puts it, to analyze (badly constructed) composites; and as mention in this chapter, his analytic precision is highly accomplished. With this, Bergson establishes a 'directionality' and 'relationality' of thought and experience through which his own work has developed original philosophical insights and arguments.

17 On the point of the importance of the unity constituted by the word and in Bergson's *Matter and Memory*, see Frédéric Worms, 'Matter and Memory on Mind and Body: Final Statements and New Perspectives', in *The New Bergson*, ed. John Mullarkey (Manchester: Manchester UP, 1999).

18 Walter Benjamin in his well-known essay 'The Work of Art in the Age of Mechanical Reproduction' (1935), writes: 'During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well.' The historical circumstances of the day, the technological advances underway had the power, as Benjamin suggests, to alter the very mode of human sense perception. In *Time and Free Will* Bergson, foreshadowing Benjamin, asks: 'If, in order to count states of consciousness, we have to represent them symbolically in space, is it not likely that this symbolic representation will alter the normal conditions of inner perception?' He continues: 'In the same way, our projection of our psychic states into space in order to form a discrete multiplicity is likely to influence these states themselves and give them in reflective consciousness a new form, which immediate perception did not attribute to them.' (p. 110).

19 For Bergson, the notion of matter (as that which we typically think of as having material form) is understood as 'an aggregate of images': 'Image', being understood as that which falls between the notions of representation (idealism) and the thing itself (realism). See: *Matter and Memory*, Chapter 1.

20 Bergson argues against what he sees as the errors of associationism at numerous points in *Matter and Memory*. His early debate with theories of association can be found in *Time and Free Will: Essay on the Immediate Data of Consciousness*, in Chapter III, 'The Organization of Conscious States: Free Will', 162–63.

21 Deleuze, *Bergsonism*, 38.

22 Henri Bergson, *The Creative Mind: An Introduction to Metaphysics*, trans. M. L. Andison (New York: Citadel Press, 1992), 28–31. In this section Bergson is implicitly making a statement against more traditionally Germanic phenomenological accounts, suggesting the 'partial view' of the 'original situation' to repetitive positionings of an 'elementary phenomenon'. Further, with regard to the phenomenological argument that consciousness is a consciousness of something; Bergson retorts that consciousness *is* something.

23 Bergson, *Matter and Memory*, 36.
    The distinction between image and representation is highly nuanced in Bergson's philosophy. The two terms are used interchangeably; at times, they are utilized to provide a distinction between matter itself and symbolic representations of matter. The 'final work' on what constitutes image has thus been a source of much debate with both protagonist and antagonist of his work.

24 Bergson develops this argument in *The Creative Mind*, Chapter III, 'The Possible and the Real'.

25 Jean-Clet Martin, 'Tarde: une nouvelle monadolgie', *Multitudes* nr. 7 (2001): 186–92.

26 The notion of interval is utilized throughout much of Bergson's work. It can be said for the sake of brevity that he develops it in primarily two directions: the first being related to the (non-measurable) space that remains between things once divided into a numeric (discrete) multiplicity (as developed in *Time and Free Will*); the second being related to his theory of action as it relates to consciousness (developed significantly in *Matter and Memory*). Here we are referring to this second aspect of the interval whereby Bergson discusses it as that in which man suspends reaction and inserts action, which he further refers to as the 'decisive turn' to the condition, as opposed to the state of experience.

27 Maurizio Lazzarato, 'Immaterial Labour', in *Radical Thought In Italy: A Potential Politics*, ed. [abbreviation of 'edited by'] Paolo Virno and Michael Hardt (Minneapolis: University of Minnesota Press, 1996).

28 Architecture theory has often employed the term techne as a principle – whether in addition or opposition to episteme – in order to bring action (seen as engaged and industrious) into the heart of knowledge (seen as disinterested and introspective). Labour and technique are tied in material production. Intellectual effort, commonly thought as immaterial, when considered as cognitive capital equally finds it force in substance and form.

29 Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (New York: The Free Press, 1979 [1929]). See section II.

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2 A Cosmopolitan View on Thinking and Being-in-Common

The founding duality of the national outlook – foreigner-native – no longer adequately reflects reality. All methods of enquiry that operate with statistical concepts such as foreigner and native are unprepared for the realities of life in a world that is becoming increasingly transnational and involves plural attachments that transcend the boundaries of countries and nationality. (Beck, The Cosmopolitan Vision)[1]

This chapter takes up a socio-political problematic of inclusion and exclusion, or rather in this case, the domestic and the foreign as a condition of the cosmopolitan city. It will engage primary in commentary on Ulrich Beck's book *The Cosmopolitan Vision*, and also seek to address a primary difficulty which arises within cosmopolitan discourse, namely that of the co-essence of individuals as *others*, as so profoundly expressed in Jean-Luc Nancy's construction: *Ego Sum = Ego Cum.*[2] While architecture and urbanism will be briefly addressed in relation to the city, inclusion and exclusion will not be developed based on the view which sees in architectural form or style (in the sense of vernacular versus international, for instance) a recourse to – say – the domestic understood as native and natural or recognizable as person or place, and the foreign understood as that which comes from *elsewhere*, thus belonging to someone/somewhere else. Simply, the ideas of inclusion and exclusion, which haunt the notions of the domestic and the foreign, will not be seen solely as the formally visible or invisible, and/or legible or illegible. Rather, they will encompass as well the manner in which an actor or agent is able to articulate their aspirations within the space of the city – in the sense of belonging-to as opposed to being excluded-from a society or community. Equally, the cosmopolitan city will not refer to the city as defined by size, scale, extension, scope, or the city as metropolis or otherwise capital city, global city, etcetera. The cosmopolitan city addressed here

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will be about intensities and a disposition towards living in common. Or, calling upon the title of Nancy's work, it will display an inclination towards the *Being Singular Plural* [3] of individuals and collectives as they form and transform the world.

Cosmos-Polis

The ancient notion of the cosmopolitan (κοσμοπολίτης or *kosmopolitês*) – or 'citizen of the world' – appears historically in various, and often diverse, forms.[4] The shifts in formulations have acted upon the very concepts of what constitutes the city in religious doctrine, political philosophy and, more recently, the social sciences. The Stoic philosophers were perhaps the first to offer a definitive philosophy of cosmopolitanism; this was followed by, among others, Roman, Judaic and Christian interpretations. The Dutch philosopher Desiderius Erasmus drew on ancient interpretations specifically in a plea for national and religious tolerance. Further, Kant's writing on cosmopolitanism still acts as a fundamental source for contemporary interpretations.[5] It is arguable that the modern vision of the city is rooted in the Enlightenment belief in a 'good society', that is, one founded in accord with Kantian (or neo-Kantian) cosmopolitanism. At its core, the principle of cosmopolitanism, which asserts that all human beings have the right to belong to a single community, continues to endure (of course, with various caveats and limitations). It is necessary to point out that any view of cosmopolitanism must accept the fact that it not only contains emancipatory principles, but establishes restrictions as well. Regarding cosmopolitanism as it is formulated in Enlightenment thinking, Jacques Derrida contends that the laws of cosmopolitanism are not restricted to 'the conditions of universal hospitality' only; for with Kant we can identify two limitations: first, the exclusion of hospitality from a right of residence in favour of the more limited right of visitation; secondly, by defining hospitality under the rule of the law, it is consigned to a condition dependent on state sovereignty.[6] In the contemporary notion of a 'citizen of the world', Derrida asks whether it is still possible to make an accurate distinction between the City and the State as the generally accepted forms of the metropolis. That leads us to one of the primary characteristics of cosmopolitanism, namely the possibility that the city should provide a place of refuge to anyone seeking asylum and that the cosmopolitan city, as such, has the obligation to provide hospitality: 'offering hospitality to the foreigner, the immigrant, the exiled, the deported, the stateless or the displaced'.[7]

Dichotomies and Modalities

At the beginning of *The Cosmopolitan Vision*, Beck quickly draws a distinction between the terms globalization and cosmopolitanization. He defines globalization as primarily a one-dimensional economic condition in which the global market and its defence of neoliberal economic growth is understood in terms of the free-flow of capital, commodities and labour across national (or other such defined) borders. In contrast, he considers cosmopolitanization to be multi-dimensional, seeing it as a process that has 'irreversibly changed the historical "nature" of social worlds and the standing of states in these worlds.'[8] Suggesting that cosmopolitanization 'comprises the development of multiple loyalties as well as the increase in diverse transnational forms of life', he points to the emergence of non-state political actors (from Amnesty International to the World Trade Organization), and the 'development of global protest movements against (neo-liberal) globalism and in support of a different kind of (cosmopolitan) globalization.'[9] It is worth pointing out that in Beck the term 'cosmopolitanization' can take two forms: the first being something that occurs 'unconsciously', its effects being generated passively as side effects of global trade or global threats. Yet, when he applies his own prefixes, for example 'scientific', to cosmopolitanization, he is intending to suggest a methodological as opposed to merely theoretical approach to this phenomenon.[10] What were earlier conceived as the primary oppositions upon which socio-political discourse was based (democracy vs. communism, capitalism vs. socialism, and so on) primarily denoted ideological differences in terms of political and economic position and policy; while contemporary conflicts include major cultural antagonisms and clashes of values between civilizations, 'culture, identity and religious faith, which used to be subordinate to strategic political and military imperatives, now set the priorities on the international political agenda.'[11] Beck suggests that we are witnessing an invasion of politics by culture. 'Dividing lines between civilizations are mutating into threats to international stability and global order. The democratic values of the West and the premodern values of the Islamic world are confronting and colliding with one another in ever more menacing and hostile ways, both within nation-states and between different global regions.'[12] Culture in this sense is invading politics. In other words, the aestheticizing of politics has become the rule for all political practice. We will return to this point just below in discussing matters commonly considered under the rubric of the postmodern.

Offering a view of what a contemporary cosmopolitan vision might entail, Beck first distinguishes between what he calls the 'philosophical' (normative) and 'social scientific' (analytical-empirical); subsequently, he proceeds to outline several existing models, or 'social modalities', which deal with the notion of cosmopolitanism. We believe it is important to add that Beck consistently offers a reading of these modalities which suggests that by their own internal dichotomies they have been prevented from addressing the reality of social and cultural difference in a positive manner. Let us briefly reiterate a few of these modalities:

Nationalism (or 'methodological nationalism'), which has traditionally been based on the assertion that the nation-state is what defines a national society. As such it imposes a territorial model, or a self-containment model, by which, among other things, the nation-state both creates and grants both human and civil rights. Issues of morality, the area of human rights, for instance, have been taken as universal presuppositions. Yet, whether or not the nation-state generated and sustained the rights of the people, or the demands for rights by the people forced the foundation of the republic, both individual and collective rights were held (relatively) under the sovereignty of the nation-state. However, today it can be argued that human rights (universally) cross all national boundaries. Additionally, we would add that a moral (just or good) society does not develop merely on the basis of rights; it develops equally on the basis of obligation. Furthermore, that obligation addresses itself immediately to community, while rights address themselves directly to the individual. Today it appears that we are witnessing a disconnection taking place between the nation, the state, and society, which in previous times were held to be inextricable. Thus, to Derrida's question, as cited above, the problem arises as to how it is now possible to distinguish within a concrete social context between foreigners and nationals, between citizens and noncitizens, between human rights and civil rights. A 'national outlook' under these conditions must be sustained, as Beck argues, within a 'territorial social ontology' that goes to the heart of everyday life in domains (that were once) as diverse as politics and mass media.[13] Beck further begs the question within a realistic cosmopolitanism: 'How do "societies" deal with "difference" and "borders" under conditions of global interdependence crisis?'[14] An issue we will return to shortly.

Universalism as a social modality presumes equality between all individuals. Yet, in its aspirations towards pure equality it levels differences by assuming a form of human and social similitude as well as applying a form of cultural homogeneity. Such a disposition can limit curiosity about what makes others different, and, by extension, can thwart deference to another's individual or community values. Moreover, according to Beck, 'the particularity of others is sacrificed to an assumed universal equality which denies its own origins and interests; universalism thereby becomes

duplicitous, leading to an excess of respect and hegemony, rationality and terror.'[15] Such a view, he argues, is dependent on the presumption of a national and an international territorial distinction – which, in principle, does not take into account the fact that the two are so interdependent that the first actually presupposes the second. In other words, there exists an internal fallacy within the universalist position in that it applies a particular set of (social) principles to the general (universal) society. Significant problems thus arise when we attempt to transfer (correlate or contrast) our own (nationalistic) understanding to another's model. This can lead to a conflation of internal and external structures which can, respectively, be isolated in terms of spatial perspectives.

Relativism, for very similar reasons, stands no better to resisting hegemonic forces than does universalism. Its aspirations towards the recognition and subsequent acknowledgement of contextual (geographic, biological or cultural) difference, are conceptually plausible, but, in practice, it reverts to an incommensurability of perspectives which only furthers our ignorance. Beck, for his part, offers the notion of a *realistic cosmopolitanism*, one which is practiced 'not in an exclusive manner but in an inclusive relation to universalism, contextualism, nationalism, transnationalism, etc.'[16] He argues that it is precisely this particular combination of semantic elements which the cosmopolitan outlook shares with the universalistic, relativistic and national outlooks and which by the same token distinguishes it from these other approaches. Summarizing this in the following way: 'the unintentional irony of the relativist incommensurability thesis is that it is almost indistinguishable from an essentialist world view.'[17] On the other hand, contextualist universalism, in assuming the historical norm of cultural intermingling, presupposes that various forms of interventionism are inevitable. And this is also what is meant when we refer to our contemporary era as exhibiting the crisis of global interdependence. The crisis, as such, issues from what we might refer to as an ethics of tolerance (inclusionary in principle) which is confronted by an incommensurable practice of integration (exclusionary in actuality).

Beck further includes *multiculturalism* as a social modality. To our mind, however, multiculturalism as a mode of thinking has become all but irrelevant when it is utilized only to indicate diversity and as a strategy for dealing with difference. Yet it remains worth noting that under the terms of Beck's 'non-integrationist supposition', multiculturalism, when conceived using the model of the nation, does not recognize the individual as such but only the fact of multiple nations.[18] Étienne Balibar suggests that political violence often leads us to the problems of multiculturalism, since it is based on the fact that certain linguistic, religious, geographical, and historical identities are not officially sanctioned as 'legitimate mediations' of (secondary) national identity. He writes: 'we speak of exclusion in this

case because the logic of hegemony ought to be able to use all primary identities in order to integrate them into the national community, or to construct a "fictive ethnicity"'.[19] This same line of thinking leads to misunderstandings of pluralism, or cultural plurality, which rely on either universal homogenization (the generic) or incommensurability of perspectives (particularism). The main point is that when culture is conceived as territorially circumscribed, then the question of plurality leads to a sterile and false alternative: either universal sameness (McDonaldization) or relativistic perspectives that resist comparison (incommensurability). Many of the claims made by so-called postmodernism seem to fall easily under similar modalities. In architecture, these two modalities were perhaps seen in the shift away from the immutable and the pure, towards plasticity and plurality. Here we might simply recall Robert Venturi's counter pronouncement that 'less is a bore' in response to Ludwig Mies van der Rohe's canonical statement 'less is more'. This is, of course, something other and something more than merely a shift in style from what we often think of as the international to the postmodern. Beck discusses the relation between postmodernism and post-nationalism using terms such as: playful, satirical and ambivalent. We might add the term irony, since it has been so widely discussed in architecture. He notes the use of various styles, symbols, and concepts stemming from older historical cultures, writing: 'this shallow cosmopolitanism of quotation and montage can indeed exploit the past to renew itself continually and try to pass it off as a fashionable invention. But is it widely thought that it cannot locate itself in history or dispel the basic fact that cultures and cultural imagination are historically specific and rooted, and hence territorial, phenomena.[20]

In this sense the question points to the importance of memory, specifically cultural memory. Yet, anyone who has studied objects of cultural production may well agree that within this now almost axiomatic critique of postmodernism lies at least one misconception; being that there is actually something new about eclecticism. Even in Western architecture's earliest treatise we know that the engineer Vitruvius Pollio privileged both Roman exemplars and precedents from Greek architecture, primarily Hellenistic, extending his references to all of Asia Minor despite the existence of imbedded vernacular or indigenous examples of cultural and social expression found in relatively isolated situations; any socio-cultural formation that took place in the city incorporated a multiplicity of various influences and streams, thereby simultaneously incorporating and producing cultural memory. In fact, one might suggest that the so-called purity of the modern vision provides the exception and certainly not the historical rule. Modern art and architecture aspired to pass from the material to the immaterial, progressing from abstract expressionism and minimalism on its way to its own purification, its own erasure through self-effacement and self-actualization in conceptual art. Modern discourse had to move through Kant, absorb the sensorial in the sentient, move to the transcendental ideal or reject it

completely in its search for a new form of universal oneness. It had to get beyond the necessity of modes of representation – and so it did. What Beck identifies as the problem of post-nationalism's non-signification was already present in the modernist turn towards abstraction (in art, architecture, literature and theatre), which equally sought a universalist view of humanity. In this sense historical dislocatedness, so often attributed to postmodernism, took on its contemporary form long ago when, in philosophy's *grey on grey*, as Hegel expressed it, the Owl of Minerva took flight.[21]

Beck's observations on the postmodern sit dangerously close to what he identifies as 'contextualist universalism' (and from a social scientific view point this may well be the case).[22] Nevertheless, while many social scientists, geographers, economists, and others, contribute meaningfully to various discourses on space, rarely do they discuss, as Kant describes, that which is above the surface of the globe. And whatever potential dangers of failure (or incommensurability) lurk within the manner in which different disciplines approach their understanding of cultural production, in my view, the point remains that if we are going to extend analysis to practice, then we must hope to grasp not only the methodological instants, but the movements that fluctuate and thereby elude our most rigorous analytic filters. Thus, going against the common logic which sees architecture and urbanism as a fixed and immutable field (on which the social is simultaneously enacted and indifferent), we should keep our minds open to the spacings, the intervals and the between-ness in which the city is a living and breathing participant.[23] Furthermore, the crisis, mentioned just above – that is, the conflict between inclusionary principles (tolerance) and exclusionary practice (incommensurability) – is being enacted not only through reflexive but also through recapitulative productions of socio-political and spatio-temporal knowledge and practice.[24] Furthermore, the socio-political implications of the postmodern (post-national) view of cosmopolitanism require, for Beck, a realistic cosmopolitanism that can include the recognition of differences 'beyond the misunderstandings of territoriality and homogenization.'[25] In this respect, he reiterates that any thinking about difference that is theorized through boundary-confirming categories such as 'internationalism' will find itself unduly restricted. The cosmopolitan view, by contrast, has the potential to transform international relations by 'opening and redrawing boundaries, by transcending or reversing the polarity of *the relations between us and them*, and not least by rewriting the relation between the state, politics and the nation in cosmopolitan terms'.[26] In other words, unlike the international outlook, the cosmopolitan outlook is capable of grasping the changes taking place within what Beck refers to as a social and political grammar. Moreover, and this is particularly important, he adds that through the process of integration 'the cosmopolitan outlook determines multiple spatial, temporal and practical both/and realities to which the national perspective remains blind.'[27]

Being in Common

At this point we can turn to what may be thought of as the temporal dimension of cosmopolitanism as opposed to the spatial dimension of globalization. The former is typically related to history (and, rightly or wrongly, memory); while the latter assumes a primary role in discussions within most fields dealing with (global) economy, sociology and urban geography, amongst others. This is the time of space. With respect to identity, it has been suggested that cosmopolitanization accepts multiple (plural) loyalties and nationalities. It is perhaps no accident that Beck here moves from the question or the challenge of the temporal (read here as memory), directly to that of identity. Worth noting, for instance, is his commentary on patriotic identity, while recalling the above reference to Balibar. When patriotic identity is seen as the only legitimate form of identity, there is generally a tendency to see ethnic conflicts as nothing more than tribal feuds. Suggesting that inhabitants of cosmopolitan modernity, by contrast, seek to overturn such categorical limitations, Beck states that they do not seek to avoid the conflicts that may arise out of conflicting identities. In fact, he contends, they know that it is precisely through this 'overlapping and conflict with other identities' that individuality itself becomes productive, arguing that each individual makes his/her own contribution to this process. At the same time, he adds that there are 'certain forms of indifference and social distance which can also make a positive contribution to social integration.'[28] This leads to the idea that cosmopolitan society arises to the extent that national societies are split and disintegrate. Thus, cosmopolitanism derives great benefit from transnationalism, which offers a completely different view of borders and frontiers. For, as Beck observes, the cosmopolitan outlook 'has its home in amazement, in the expanding in between, in which seemingly eternal certainties, borders and differentiations become blurred and effaced.'[29] Here we find transecting identities, something we might think of in terms of multiplicities (rather than multitudes). But what becomes relevant is not merely the complexity suggested within the individual (as the construction of self), as if incorporated and multiple experiences and perspectives will, in and of themselves constitute cosmopolitanism. It is equally important to stress that the individual, or the trans-identity of self, is not restricted to, nor constructed within, multiple national identities alone. We will return to this below with Balibar's reference to the transindividual.

Balibar offers another position regarding identity, arguing that ethnicity as a model of identification, though powerful thanks to the fact that it can combine cultural characteristics, always produces fictive elaborations founded on the basis of genealogies and religious or linguistic similarities. He further suggests that every individual must be understood as a 'multiplicity of competing identities'; and every individual must confront the same problem: 'how to proceed in order

to orient oneself – to "find oneself" – among one's multiple personalities, with the help of others (who can be *abstract or ideal* others: memories, stories, symbols or institutional emblems, "maps" in the most general sense of the term).'[30] We might return here to Beck's notion concerning the interconnection between space and society; for the temporal dimension must be considered along with the spatial if we are not to be led to some form of 'ahistorical reification', or one-dimensional view. Such a reductive, entirely spatial view 'exhausts itself in its concentration on the pluralization and interpenetration of boundary-constructions.'[31] What Beck will then refer to as a '*deeper real-*cosmopolitanism', is one which 'alerts us to the empirical-analytical and the normative questions produced by the cosmopolitanization of society and politics, of history and memory in the temporal dimension.'[32]

Yet, here, too, we find a distinct overtone with regard to the political dimension of memory. In this sense the global has no memory, as Beck asks: 'how does globality get refracted historically in the non-simultaneity of concurrent cultural situations and self-definitions? …. the present is colonizing the future and the past.'[33] The city that is extended in only the spatial dimension, has no access to memory, to time. 'It is conceived as the expansion of loyalties, identities, obligations and rights. The cosmopolitan outlook trapped in the metaphysics of the eternal, turbulent, catastrophic present remains restricted.'[34] Beck is here introducing the problem of the instant; that which in other terms can be understood as the spatialization of time, that which replaces the flow of the continuous (belonging to human experience) with the frozen frame of the discrete (belonging to social scientific and socio-political analysis). To get at the problem of the individual beyond the frame of trans-national constructions of identity, it may be helpful to turn to the ideas of Jean-Luc Nancy in order to address the relation between the individual and the collective, or what was referred to above, citing Beck, as the relations between us and them. For behind the 'I', indeed perhaps in front of it, as Nancy has argued convincingly, is the 'we':

The one/the other is neither "by," nor "for," nor "in," nor "despite," but rather "with." This "with" is at once both more and less than "relation" or "bond," especially if such relation or bond presupposes the preexistence of the terms upon which it relies . . . "With" is the sharing of time-space; it is the at-the-same-time-in-the-same-place as itself, in itself, shattered. It is the instant scaling back of the principle of identity: Being is at the same time in the same place only on the condition of the spacing of an indefinite plurality of singularities.[35]

Being 'together', in this sense goes to the heart of simultaneity, to the sharing of time and space without the reduction to the instant, or the instantaneity of *pure succession*. To quote Nancy: 'same time/same place assumes that "subjects", to call them that, share the space-time, but not in the extrinsic sense of "sharing"; they

must share it between *themselves*; they must themselves "symbolize" it as the "same space-time" without which there would not be time or space.'[36] This position not only treats time and space as philosophical abstractions but also as concrete practices that include the 'distinctness of place'; continuing with the previous citation, we note that 'the passage from one place to another needs time [*du lieu à l'autre, il faut le temps*]. And moving in place [*du lieu à lui-même*] as such also needs time: the time for the place to open itself as place, the time to space itself.'[37] We would like to suggest here that it is also the notion of a 'we' that has falsely generated the idea of the 'other' (found in Enlightenment, post-colonial and psychological theories of self, the self-same, and the other, which includes Erasmus's concept of tolerance). In other words, concepts of both individualism and collectivism, which utilize denotations (and dualities) such as *the* foreign and *the* domestic, are simply inadequate to reflect our daily realities.

Returning to the above challenge to memory, and against the absence of a collective memory, Beck argues that the global might well be in the process of producing a collective future. Or it would be if we take seriously the 'world-threat' and the 'self-endangerment' of civilization together with the possibility of imagining a 'transnationally shared past which takes on concrete form in the dialectic of memory and forgiveness.'[38] It should be argued, as well, that this concrete form is acted out in place, in community itself, and that we must be willing to examine the *concrete* as signifying what Nancy refers to as 'the real object of a thinking of being-in-common.'[39] To proceed further in this vein we must also be able to distinguish between our consciousness of and practice of cosmopolitanism. In this connection, Beck argues that while we may be witnessing a shared global awareness of a collective future, there is, in fact, no current set of practices which corresponds to this awareness. Of course, many might take issue with this, for instance environmental awareness (our systematic destruction of the globe has for some decades now been on the agenda of architects and urbanists). However, here Beck is attempting to open up a perspective that, even in his view, does not yet surpass theoretical constructs. In fact, we see in his work a constant opposition to the kind of analysis that takes globalization as 'the' reality through which social research should advance. Nevertheless, Beck continues to provide models of thought that allow us to gain a deeper understanding of cosmopolitanism. For instance, he argues that a *monological imaginary* is found at the core of the nation-state's nationalistically centred image of self (domestic) and other (foreign); and that this can only result in the manifestation of exclusionary practices. He offers a counter-position in the form of what he refers to as a *dialogical imaginary of the internalized other*. Introducing Nietzsche's observation that modernity was engaged in an age of comparison, Beck subsequently interprets Nietzsche within the framework of the cosmopolitan, writing that what was important was the latter's recognition that cultures had begun to

'interpenetrate', producing a changing of perspectives whereby 'the cosmopolitan worldview becomes an imagining of *alternative* paths within and between different cultures and modernities'.[40]

Following Dominique Schnapper, Balibar offers a similar distinction between substantialism and formalism.[41] The former is based in the citizen's participation in 'a single traditional culture, a single language, or ethnic heritage, inaccessible to all those who have not inherited them by birth or been entirely assimilated into them'; and, in the latter case, 'citizenship would stem entirely from individual adherence to certain moral values (the rights of man), from the respect of certain juridical (constitutional) rules, and from the "contract" implicit in republican institutions.'[42] Balibar further suggests that the nation must escape from forms of exclusionary (nationalistic) practice while simultaneously creating what amounts to a singular identity. In thinking the nature of democracy – as it extends beyond the traditional boundaries of the nation seen as a self-sustaining and independent body – Habermas in *Postnational Constellation* uses the term 'humanity' to describe a normative model of community that is truly inclusionary, where exclusion is, in fact, impossible.[43] In other words, the nation must work both to integrate and welcome the non-national (foreigner) and to engender a sense of belonging that is *experienced in common* and transmitted from generation to generation.[44] Yet this bringing forth of belonging occurs both at the level of thought and at that of action, as mentioned several times now: with rights come obligations. Obligations and rights become acted and enacted not only in our minds, our homes, and our neighbourhoods (our institutions); they are transcribed within the very dynamics of our cities as well. The city is not simply the passive frame, the background upon which our interconnected lives play out. Nor, as Nancy argues, is the city primarily community; nor is it simply public space:

The city is at least as much the bringing to light of being-in-common as the disposition (dispersal and disparity) of the community represented as founded in interiority or transcendence. It is "community" without common origin. That being the case, and as long as philosophy is an appeal to the origin, the city, far from being philosophy's subject or space, is its problem. Or else, it is its subject or space in the mode of being its problem, its aporia . . . philosophy is the problem of the city; philosophy covers over the subject that is expected as "community".[45]

The problem of the city also includes our aspirations towards an open society, one in which the cosmopolitan view can live. To realize such a dis-position it is necessary to think through the question of who, in fact, might be the 'we' within a complex society (of domestic *and* foreign inhabitants). In other words, the 'us' and 'them' of the domestic and the foreign as a category of distinction which aligns oppositional fields of interest in the form of both knowledge and practice, must be

abandoned in order to make way for inclusionary as opposed to implicit exclusionary practices. Accordingly, we must discuss relations of people to people and not only those of states to states. Simply, issues of identity (as shared articulations) are not represented but practised – inclusion/exclusion at the levels that are the subtlest and most difficult to discern; they generate urban patterns of practice and habits of movement and encounters that remain unarticulated in most urban or architectural analysis. In agreement with Nancy, our task is to 'understand how history – as a singular, Western accident – "became" what one might call "global" or "planetary" without, at the same time, engendering itself as "universal".'[46] But here we must accommodate, as discussed above, a different sense of the universal. Not as it is applied to society *as such* but as it speaks to the nature of the individual and, even more importantly, of the individual in community with other individuals. Using the framework outlined above, Beck deepens his analysis of the 'cosmopolitan real' by developing a concept, or modality, of 'interconnectedness', understood, of course, from a social-scientific point of view.[47] Utilizing Zygmunt Bauman's concept of liquid modernity[48] – in light of concepts developed under the terms of flows and networks (whether economic, cultural and/or social) or imaginary communities – Beck explores the difficulties in sustaining a model dependent on axiomatic notions of a closed society. Employing the metaphor of liquidity he suggests that cosmopolitanism should examine and explore 'the boundary-transcending and boundary-effacing multiperspectivalism' of social actors and political agents through new theoretical and analytical filters. Beck writes:

The cosmopolitanization approach differs fundamentally from the afore-mentioned approaches to the empirical investigation of globalization in that (a) it distinguishes systematically between the perspective of social actors and that of social scientific observers: (b) it replaces the opposition between national either/or "streams," "networks" and "scapes" with a both/and typology (transnational, translocal, global-local, global-national, etc.); and (c) it inquires into the congruence or lack of congruence between actor and observer perspectives, and thereby highlights discrepancies among the options open to social and political actors and institutions, on the one hand, and social scientific approaches and perspectives, on the other, and traces their implications for concepts and theories in the social sciences.[49]

We take this to include architectural and urban practices of both the actors (the designers, planners and so on) and the agents (the performers, transformers, interpreters, transcribers) of spatial and temporal enunciations (perhaps 'expressions' in Beck's terms). In fact, nothing is to be gained by continuing to separate the (concrete) problems of the city as seen from the perspective of urban researchers from the conditions formulated in (abstract) theories propounded in numerous spatial- and/or spatio-temporal discourses – a separation rooted in long

held antagonisms. Nevertheless, Beck also poses a similar set of problems, asking such questions as, 'Does public space emerge in which seemingly sharp oppositions between "us and them" become blurred and a conflictual and cooperative culture of transnational openness and reconfiguration of the local arises?'[50]

Perhaps we can get at this further by turning to the theory of assemblage. Let us provisionally accept the theory that the global or the local do not exist as such but, instead, are made at every moment within language and through various social-political-economic-spatial/temporal practices. Further, that it is impossible to address such concerns independently of a position on the status of the individual and the collective. We can interpret this term collective in a broad sense – also as community or citizenship – as long as we understand by this that which provides a sense of belonging. On this point Balibar offers the following assessment with regard to the individual: *every identity as such is transindividual.* This breaks from ideas for models that see collective identity as organically or culturally driven ('organicist / culturalist'), or social psychological theories used to represent national characters and group identities. 'But neither does anything allow us to think that the individual "self" constitutes an autonomous and self-sufficient reality whose identity could be formed independently of social processes and a collective imaginary'.[51] Collective identity is not in this sense a given, nor a metaphysical condition of agency. 'It is certainly not a mythical image that could be forcefully imposed upon reality by inventing this or that historical criterion . . . It is a *quality* of collective agency, which changes form and content in time, as new agents come into play and new solidarities are built among those who, not long ago, were ignoring or fighting each other.'[52] Where Balibar discusses agency, we would add Deleuze and Guattari's concept of assemblage to describe the dynamic qualities of a body (*individual*) in relations of exteriority with other bodies (*transindividual*). These 'constellations' incorporate the properties of the imaginative (collective and individual) and contingent codifications resulting in the process of territorialization; both in turn and co-temporally, the processes of deterritorialization, and reterritorialization continue as, respectively, the disarticulation and rearticulation of assemblages are formed.[53]

We should question if it is even possible to think any generic notion of the common. Balibar asks: 'Can difference and sharing, conflict and the general interest be thought together?'[54] Of course on this point Beck appears to remain clear with regard to what he calls the cosmopolitan sensibility, as this sensibility and capability arise from the clash within one's own life as it encounters what amounts to cultural collisions at the heart of everyday experience. 'The cosmopolitan constellation *qua* domain of experience and horizon of expectations means the *internalization* of difference, the co-presence and coexistence of rival lifestyles, contradictory certainties in the experiential space of individuals and societies.'[55] Here he situates

the 'dialogical imagination' in both quotidian and scientific experience. 'This involves two things: on the one hand, situating and relativizing one's own form of life within other horizons of possibility; on the other, the capacity to see oneself from the perspective of cultural others and to give this practical effect in one's own experience through the exercise of boundary-transcending imagination.'[56] This very idea of transcending boundaries through the faculty of imagination is, in fact, precisely what is needed in both the analytic and intuitive thinking about architecture and urban theories and practices.

In the end, perhaps Beck's cosmopolitan vision relies too heavily upon the self-realization of individuals to both critically reframe their own openness to the world and willingly act within a new cosmopolitan sensibility. This leap of faith, or rather, the leap to the belief in the individual's ability to place themselves in an open disposition towards others must equally be understood as a positioning of the 'with'. While it would be naive to ignore the fact that within any exchange of ideas – the clash of cultures, even within one's own life perspective – there is also an exchange of power; power acting upon power which remains inherent in any form of socio-political and spatio-temporal practice. Foucault, in an interview with Paul Rabinow, was pressed to take a position as to whether architecture as a practice could claim to exert the power of space. Foucault concluded it could not, because 'the three great variables – territory, communication, and speed … escape the domain of architects.'[57] Today, with the double progression of body and brain expanding bio-politics to noo-politics, we believe this conclusion no longer holds.

Thus, to turn the idea of cosmopolitanism into that of an active disposition, a practice, we not only need new forms of research and thinking (as Beck argues); it will also be necessary to open this discourse in two directions. To a political problematic that is receptive to philosophical discourse on the self and other; and, secondly, it will be necessary to invent modalities for conceiving this perspective in a way that critically considers the physical environment within which both conflicts and confrontations and 'being-in-common' take place.

A first version of this chapter has appeared under the same title in: *The Domestic and the Foreign in Architecture*, eds. Sang Lee and Ruth Baumeister (Rotterdam: 010 Publishers, 2007).

Notes

1   Ulrich Beck, *The Cosmopolitan Vision* (Cambridge: Polity Press, 2006), 26.
    On the use of the term cosmopolitan it is perhaps important to note the following passage: 'This choice of words is an experiment – and an open question. Anyone who finds this meaningless, nominalistic, a form of language fetishism devoid of any sense of scientific conceptual rigor, has not grasped that actions grow out of language, one way or another, and that the total negativity of the Holocaust may well have a formative effect on history.' Ibid., 111.

2   Jean-Luc Nancy, *Being Singular Plural*, trans. R. D. Richardson and A. E. O'Byrne (Stanford: Stanford UP, 2000 [1996]).

3   Ibid.

4   From the Aristotelian, Stoic, and Hebraic traditions (Book of Numbers), and Pauline Christianity, to Marx, Simmel, Johann Wolfgang von Goethe, Nietzsche, or Adam Smith and John Dewey, to name only a few.

5   Immanuel Kant, 'Idea for a Universal History with a Cosmopolitan Point of View' (1784) and 'Definitive Article in View of Perpetual Peace' (1795).

6   Jacques Derrida 'On Cosmopolitanism', in *Drifting: Architecture and Migrancy*, ed. Stephen Cairns (London: Routledge, 2004), 58.
    'Kant seems at first to extend the cosmopolitan law to encompass universal hospitality without limit. Such is the condition of perpetual peace between all men. He expressly determines it as natural law (*droit*). All human creatures, all finite beings endowed with reason, have received, in equal proportion, "common possession of the surface of the earth". … If Kant takes great care to specify that this good or common place covers "the surface of the earth", it is doubtless so as not to exclude any point of the world or of the spherical and finite globe (globalization), from which an infinite dispersion remains impossible; but it is above all to expel from it what is erected, constructed, or what sets itself up above the soil: habitat, culture, institution, State, etc.'

7   Derrida, 'On Cosmopolitanism', 49. Derrida's challenge is not merely to rethink the notion of cosmopolitanism; it is to consider whether or not the city might be able to reorient the politics of the state. My own account will not address the geo-political forms of policy which Derrida approaches in his work as here cited (Derrida's paper was presented in Strasbourg, 1996, to an International Parliament of Writers on the topic of 'Cities of Asylum'). However, the disposition of his work, which inclines towards the individual as a member of a community of 'others', remains of central importance to the argument I am presenting here.

8   A similar deliberate treatment of the terminology that surrounds the term urban can be seen in the work of Henri Lefebvre. For instance, his 1970 *Le Révolution Urbaine*, whereby he substitutes the term 'post-industrial society' with 'urban society' in order to make an operative distinction, in much the same way as Beck immediately notes the distinction between the 'global' and the 'cosmopolitan'.

9   Beck, *The Cosmopolitan Vision*, 9.

10 Ibid, 19.
    It is worth mentioning that Lefebvre also believed in the linguistic play of words, designations, terminologies, etc. in order to 'open understanding' of the city to such things as 'tendencies, orientations, and virtualities'.

11 Ibid, 50.

12 Ibid.

13 In Beck's account we should add to this, that it is in the form of the law and social sciences that such an 'everyday' social ontology will be encountered. It is also worth noting that throughout this work, Beck is taking issue with methods practiced within various disciplines, specifically that of sociology, in terms of how they approach their 'object' of analysis; in fact, in order to open up a new way of thinking about cosmopolitanism, Beck offers many supposed correctives to otherwise accepted research methods.

14 Beck, *The Cosmopolitan Vision*, 48. He will here also draw a distinction between a 'realistic' or 'social scientific' view of the current potential of cosmopolitanism from what he sees as the idealisms ('philosophical') of past perspectives.

15 Ibid., 49.

16 Ibid., 55.

17 Ibid., 63.

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18　Ibid., 66–67.

19　Étienne Balibar, *We the people of Europe? Reflections on Transnational Citizenship*, trans. J. Swenson (Princeton: Princeton UP, 2004 [2001]), 29.

20　Beck, *The Cosmopolitan Vision*, 28–29.
One way or the other, both the generic and the over-particularized alternative when taken as doctrine, Beck argues, can amount to 'cultural suicide'.

21　This well-known reference and well-worn phrase is found in Hegel's 1820 Preface to his *Philosophy of Right*.

22　To address this point further it would be necessary to take issue with Beck's argument regarding his notions of interventionism and inevitability, which lie beyond the scope of this chapter.

23　With this I would also include Bruno Latour's notion of 'thinking between'. See: Bruno Latour, 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern', *Critical Inquiry* vol. 30, no. 2 (Winter 2004): 225–48.

24　Douglas Rushkoff, for instance, in his book *Children of Chaos: Surviving the End of the World as we Know it* (London: Flamingo, 1997), writes on a current manner of processing stimuli into information, and of information into knowledge within what he identifies as recapitulation. He distinguishes the presentation of information directed at knowledge from that of data directed at the accumulation of information into categories of storytelling: 'instructional' (reallife exchange of experience as a survival method in prehistory – literal), 'metaphorical' (narrative exchange or experience which functions with the like-me recognition of similarity through empathetic recognition – symbolic) and 'recapitulative' (the intentional distancing from emotional reality through selfconscious awareness – nonrepresentational).

25　Beck, *The Cosmopolitan Vision*, 30.

26　Ibid., 32 (my emphasis). Although this will not be addressed in this chapter, it is worth noting that while this sentence captures the geo-politics (see note 6), it leaves out the city on which, in both Derrida and Nancy, this argument heavily relies.

27　Ibid., 33.

28　Beck, *The Cosmopolitan Vision*, 76.
See also Henri Bergson's last major work, *The Two Sources of Morality and Religion*, trans. R. Ashley Audra and Cloudesly Brereton (Notre Dame: University of Notre Dame Press, 1932), in which Bergson outlines what he understands as both the natural and cultural basis on which both 'open' and 'closed' societies have developed. Bergson assigns 'tribalism' to a closed system; and this is an argument which Claude Lévi-Strauss used in his book *Totemism*, in order to correct Émile Durkheim's reading of the structural function of the totem as it applies to a tribe or a clan.

29　Ibid., 77.

30　Balibar, *We the People of Europe*, 26.
Here Balibar goes on to argue the following hypothesis: 'the two extreme situations turn out to be unlivable, if not absolutely impossible, in practice, which means they mark permeable, fluctuating borders between the normal and the pathological. One of these extremes is represented by the absolute univocality of identities, their forcible reduction to a unique social role from which we cannot deviate whether it be a private role, such as "good" or "bad" child, father or mother, servant or boss… or public role, or at least a role exhibited in public, such as activist, soldier, or civil servant. On the other extreme we find infinite multiplicity, the continual passage from one identity to another, which has become a certain postmodern ideology of liberation from authoritarian figures of the constructions of personality, at the risk of lending itself to another form of subjection: that imposed by the model of the universality of "exchanges", that is, the market and its own "libidinal flows".' Ibid., 27.

31　Beck, *The Cosmopolitan Vision*, 77.

32　Ibid.
It is worth noting that here we might suggest that Beck is caught in the classic clash between thinkers in sociology, geography, etc., between those who claim that our current thinking, since modernity, remains temporal (Edward Soja) and those who argue that postmodernity has, in fact, undergone the shift to spatiality (David Harvey).

33　Ibid., 78.

34　Ibid.

35　Nancy, *Being Singular Plural*, 35.

36 Bergson offers a philosophically sustained treatment of the notions of simultaneity and succession, from his earliest work on Aristotle, *Quid Aristotoles de loco senserit* and *Essai sur les données immédiates de la conscience*, both of 1889, through to his well-known work *Matière et Mémoire* of 1896, and perhaps most significantly, the work in which he developed a critique of Einstein's theory of space-time, *Durée et Simultanéité* of 1922.

37 Nancy, *Being Singular Plural*, 61.

38 Beck, *The Cosmopolitan Vision*, 109.

39 Nancy, *Being Singular Plural*.
'It is here that the critique of abstract rights comes to the fore. However, the "concrete" that must oppose such abstraction is not made up primarily of empirical determinations, which in the capitalist regime exhaust even the most egalitarian will; rather, concrete here primarily signifies the real object of a thinking of being-in-common, and this real object is, in turn, the singular plural of the origin of "community" itself … All of this is undoubtedly what is indicated by the word that follows "equality" in the French republican slogan: "fraternity" is supposed to be the solution to equality (or to "equiliberty" ["égaliberté"]) by evoking or invoking a "generic identity." What is lacking there is exactly the common origin of the common.' (pp. 24–25). On the idea of 'fraternity', Nancy is here referring to Derrida's *Politics of Friendship* (London: Verso, 1997)

40 Beck, *The Cosmopolitan Vision*, 79.

41 Balibar, *We the People of Europe*, 54–55.
His reference is to D. Schnapper, *Community of Citizens: On the Modern Idea of Nationality* (1998).

42 Balibar, *We the People of Europe*, 56.

43 Jurgen Habermas, *The Postnational Constellation: Political Essays* (Cambridge: The MIT Press, 2001), 108.

44 Étienne Balibar and Immanuel Wallerstein, *Race, Nation, Class: Ambiguous Identities,* trans. Chris Turner (London: Verso, 1991), 93 (my emphasis).
Conversely, with regard to the 'nationalization' of identity, Balibar and Wallerstein write that '(a) social formation only reproduces itself as a nation to the extent that, through a network of apparatuses and daily practices, the individual is instituted as homo nationalis from the cradle to the grave, at the same time as he or she is instituted as homo œconomicus, politicus, and religious.'

45 Nancy, *Being Singular Plural*, 41.

46 Ibid., 22.

47 Beck, *The Cosmopolitan Vision*. He addresses this by 'promoting the conceptual disclosure and empirical elucidation of the growing interconnectedness and interdependence of national spaces.' Ibid., 79.

48 Zygmunt Bauman, *Liquid Life* (Cambridge UK: Polity Press, 2005).

49 Beck, *The Cosmopolitan Vision*, 81–82.

50 Ibid., 91.

51 Balibar, *We the People of Europe*, 26.

52 Ibid., 221.
Earlier in this book Balibar also outlines a notion of community, or more precisely, the possibility of a 'citizenship without community' that addresses the problem of agency within more tradition models of cosmopolitanism. The problem being that a community is defined, 'in fact', by an oppositional position with regard to those who belong (insiders) and those who do not (outsiders). Arguing that this opposition even remains contained in the inverse proposition of an all-inclusive community of all humanity; as 'found in the modern cosmopolitan tradition, from Kant to Habermas'. Ibid., 65.

53 Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987).

54 Balibar, *We the People or Europe*, 67.

55 Beck, *The Cosmopolitan Vision*, 89.

56 Ibid.

57 Michel Foucault: *Power/Knowledge: Selected Interviews and Other Writings 1972–1977*, trans. Colin Gordon, Leo Marchall, John Mepham and Kate Soper. (Essex: The Harvester Press Limited, 1980)..

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3 On the Virtual and Lefebvre's Urban Problematic

We apply the term subjective to what seems to be completely and adequately known, and the term objective to what is known in such a way that a constantly increasing number of new impressions could be substituted for the idea which we actually have of it … but there is no change in the general appearance of a body, however it is analysed by thought, because these different analyses, and an infinity of others, are already visible in the mental image which we form of the body, though they are not realized: this actual and not merely virtual perception of subdivisions in what is undivided is just what we call objectivity … and space is accordingly, the material with which the mind builds up number, the medium in which the mind places it. (Bergson, Time and Free Will)[1]

This chapter is an exploration of the notion of the virtual and the problem of conceiving the city with reference to the difficulties encountered in urban theory when, whether by analysis or design, we attempt to fix or stabilize our findings and projections onto the surface of the city. Of course, the surface itself, mapped with spatial properties and qualities, is by its nature the very problem to be addressed utilizing the notion of the virtual. This problem is well understood; even so, the ways in which we search for the forces and factors transforming our cities and our societies are still being explored. The traditional 'empirical method' is no longer adequate to the aims of understanding dynamic and emergent processes. We now advance with much more radical and ex-centric empiricisms, developing our means and our concepts as we go. Borrowing from Bruno Latour we might simply say that our work has shifted from 'matters of fact' to 'matters of concern';[2] no doubt a horrifying thought for many. But this freedom to search does not come free of the responsibility to communicate, to challenge and to be challenged, to discover and define the limits and thresholds within both the theoretical and practical concepts by which we claim to advance knowledge and substantiate actions. It is our position that the notion of the virtual (and/or concepts under its broader rubric) is required to suspend the hypostatizing process of design and to intensify intuition as well as imagination.[3]

To explore this contemporary urban condition through theories of the virtual using both sociological and philosophical perspectives, we start with the work of Henri Lefebvre. This chapter will focus on a small but concentrated work of Lefebvre: *The Urban Revolution* of 1970.[4] This book is commonly understood as Lefebvre's response to the social uprisings of 1968 as seen from the point of view of what he defines concisely as the 'urban problematic'.[5] However, the questions and concerns posed in this work are not be limited by a single historical circumstance, they belong more broadly to the history of intellectual debate that, while it may be thought to have emerged in the sixties, belonged to a moment that both preceded and followed it.[6] This belongs to a period and an episteme (Foucault) struck by the richness and complexity of thinking that sought to transcend disciplinary boundaries. Thus, to elaborate through a double reading a set of concerns for this analysis, we will pay particular attention to the work of Michel Foucault and, more particularly, to Deleuze's reading of Foucault. We have chosen to situate this work with these thinkers notwithstanding Lefebvre's explicit rejection of Foucault. For those unfamiliar, suffice it to say that in Lefebvre's view, Foucault's work on knowledge privileged the theories of knowledge *(savoir)* at the expense of knowledge produced by the subject *(connaissance),* and his work on power privileged analysis over practice and left little room for individual agency as regards the production of the social-spatial.[7] In other words, for Lefebvre, Foucault was just too systematic and his explanations of history too conservative. Further, his insistence on the text (or *articulation* as will be discussed below) as the primary locus of knowledge was seen as a denial of the importance of the philosophical concept as a point with which to begin any theory of social signification. Contrary to this, it could equally be said that Foucault's insistence on examining the localizable, or the specific over the general or global, allowed for a well-defined analysis of the invisible or hidden (virtual) forces, both determined and determining, that constitute our social and, for Lefebvre, our urban reality. Of course, resolving these issues is not the problem set forth in this chapter. Nor is it our intention to place Lefebvre and Foucault in opposition. Instead, it is our position that Lefebvre's passion, his vision, and Foucault's precision, his historian's gaze, form a powerful alliance, and we will be utilizing aspects of their early work to begin by looking back, in order to open onto a view of the urban *problématique* today.

Movements and Orientations

Henri Lefebvre opens *The Urban Revolution* with the following hypothesis: 'Society has been completely urbanized.' He then provides the following definition: An *urban society* is one which 'results from a process of complete urbanization. This urbanization is virtual today, but will become real in the future'.[8] These first few

lines immediately introduce two key concepts that Lefebvre will work with (and against) in this book: first, the very expression 'urban society' by which we will look at its qualities and what it signifies, as well as question how it acts.[9] And second, the inclusion of the notion of the 'virtual' in the opening sentences of the book is considered as an *opening* to of the central problematic of this work. With the above definition of 'urban society', Lefebvre sets out to clarify certain ambiguities that might exist around this term. Ambiguities, he argues, arise when the term is used too generally, in reference to a city or urban agglomeration, for instance. Generalizations cause the social relationships unique to an individual formation, or a specific type of urban production, to go unobserved. In other words, by using the term 'urban society' without understanding that it is characterized by process over product, we are in danger of making comparisons between things, or states, which have nothing in common. In the chapter 'The Right to the City', Lefebvre expresses these relationships succinctly: he uses the term 'generalities' to denote a too broad or totalizing view, 'particularities' to denote that which we believe differentiates one entity from others, but he also includes the term 'singularities' to denote 'the ways of living of the city, more properly understood as to inhabit'.[10] This comment, on what might commonly be referred to as the general and the particular, alerts us to a complexity suffused throughout the book. For instance, we will find him asserting theories of the global while equally insisting on a focus that is local. He will claim, for instance, that the 'urban problematic' must be understood as a (virtual) object, global in reach, while simultaneously reminding us that it is necessary for any methodological study to look carefully at the specificities of the object at hand.[11] Although these as well as other terminological distinctions often seem to conflict, Lefebvre has little trouble resolving them. However, these reconciliations do not derive from precise or conclusive definitions, but are situated squarely within his theoretical approach to concepts.[12]

As a result of ignoring the specificities of urban societies, Lefebvre suggests, the following ideologies emerge: *organicism*, *continuism*, and *evolutionism*; the first being characterized by its belief in an organic 'whole', the second by that of historical continuity and the third by different periods whereby the social relations, during their transformations, actually disappear.[13] Extending the definition of the term 'urban society', Lefebvre writes: it is 'that which results from industrialization as a process of domination that absorbs agricultural production. This urban society cannot take shape conceptually until the end of a process during which the old urban forms, the end result of a series of *discontinuous* transformations, burst apart.'[14] Thus far, it all seems very concise. A process that absorbs product is something other than evolutionism, which leaves one product behind by selecting another; and the emphasis on the discontinuous within the transformative refutes the ideology of continuism. On the ideology of organicism however, the rebuttal is not so direct.

We will return to this shortly, but suffice it to say that the very notion of an 'organic whole', which can be seen in its entirety and thus studied as a model, is contrary to the notion of the virtual or the *possible object* which is understood as a central thesis in this work.

In Lefebvre, the term 'urban society' should be understood in place of the more common designation of 'post-industrial society'. Although he accepts that there is both 'empirical and conceptual truth as well as an element of exaggeration and extrapolation' in many of the appellations applied to what is commonly understood as the post-industrial era (that is, technological, consumer or leisure society), he believes that with the term 'urban society' he can open understanding of the contemporary urban condition to such things as its 'tendencies, orientations, and virtualities', which he posits against the idea that urban society might be understood as being composed of any existing or 'preordained reality'.[15]

Why though is it necessary for Lefebvre to give a new name to this period, this condition? Does he believe that given his original hypothesis, the term 'urban society' offers a more accurate description of this 'society which cannot take shape conceptually until the old urban forms break apart'? Brian Massumi, in discussing the concept of the 'singular expression' in Deleuze and Guattari, refers to the propositional model of language as characterized by what they have referred to as 'a three-sleeved strait-jacket on expression's movement: designation, manifestation, and signification; the particular, the personal, and the general'.[16] In Deleuze and Guattari, among others, it has been argued that the moment an individual movement (personal or collective expression) has been articulated as such, it is vulnerable to absorption or capture by structured ideologies, regulating bodies or hegemonic powers.[17] In other words, the fluid, the emergent, quickly become stratified. To put it rather brutally, that which is named is easily commodified.[18] However, Massumi offers a further consideration: if an expression can resist appropriation by an established power, 'insisting on defining its own traits, in a self-capture of its own anomaly, [it] will retain a shade of the unclassifiable and a margin of unpredictability', the expression will appear as what it is: 'a multiplicity in flux, an expressive "movement" or "orientation" still under formation'.'[19]

Lefebvre writes that his hypothesis (involving the social sciences) is based on an 'epistemological and methodological' approach.[20] Here he states that knowledge is 'not necessarily a copy or reflection, a simulacrum or simulation of an object that is *already* real' nor, he claims, is it necessary for knowledge to 'construct its object' for the sake of a theory – what he refers to as 'a theory of the object or its models'.[19] Nevertheless, Lefebvre does not leave off with merely an approach to the object but provides a theoretical hypothesis, as he puts it so succinctly: 'the object is included

in the hypothesis; the hypothesis comprehends the object'.[21] And it is by the use of this proposition that Lefebvre reconciles many otherwise incongruent terminologies and claims. Qualifying the terms of the hypothesis: 'Even though this "object" is located outside any (empirical) fact, it is not fictional. We can assume the existence of a *virtual object,* urban society; that is, a *possible object*, whose growth and development can be analysed in relation to a process and praxis.'[22]

Lefebvre is here setting up a position by which he will claim that the *future* as such, the *virtual,* of urban society does not preclude an epistemological account. However, Lefebvre's claim alone is not adequate to address an epistemology of the *not yet real*. While theories of knowledge occupy an entire area of philosophical discourse, we will here turn to the historian/philosopher who developed an enormously influential epistemological theory in order to elaborate the issue. In Foucault's work on the subject of knowledge we are reminded that *nothing* exists prior to knowledge. He employs the term épistème to denote an intellectual era and the prevailing epistemology by which any such era is given systematic formulation. But in a more familiar parlance he also refers to 'an age' in order to point to a particular period as identified by a set of historically determined conditions; these can be understood as 'historical strata', and the *knowledge* that constitutes a given age necessarily pre-exists its enunciation.[23] To state it otherwise: an age cannot occur or pre-exist the statements and visibilities that determine its discourse. He claims that our very facility to see (visualize) or to speak (articulate) is contained in our ability to know of those things which are visible and sayable. Deleuze writes that with Foucault, knowledge is defined by 'the combinations of visible and articulable that are unique to each historical formulation'; and as such, 'knowledge is a *practical assemblage*, a *mechanism* of statements and visibilities'.[24] With this the distance between Lefebvre and Foucault appears irreconcilable. For how, if nothing exists prior to knowledge, can knowledge in its turn be other than a copy of that which is already 'real'? However, and importantly, Foucault further provides that in their turn, non-discursive (vision) and discursive (speech) practices also inform, and thus *transform*, the forms of expression and the images by which we advance towards a future. For there is always a flowing, a folding of one form into another, a crossing and passing of statements and visibilities, which spontaneously cease to exist at the very moment they come into being. In other words, knowledge exists, though it is by virtue of this existence neither necessarily nor always real (and by this is meant *realized*).

Provisionally accepting Lefebvre's position towards knowledge, we might understand this as an epistemology which accepts the futurity of this 'not yet real' (or this not yet arrived) of 'urban society'. But how exactly are we to understand growth and development as not belonging to the 'ideology of organicism' (as warned against earlier)? He does place these *unities* in (analytical) relation to process, but we

should question whether this is sufficient to provide reconciliation to these otherwise incongruent terms as such, set within the futurity of the virtual/possible object, contained in a 'non-fictional yet non-factual' empiricism. Lefebvre is here attempting to explain his theoretic (to my mind speculative, whereas to his methodological) with an epistemological approach, as the 'empirical' by definition is precluded, or, at least, deferred, and understood, as he will express shortly, as that which *flees before our grasp*.

Let us conclude this section with the observation that it here appears that Lefebvre is attempting to resolve the non-predictability of the current situation, without giving up claims to the possibility of analytic precision.[25] To which we will suggest that the distance between what 'exists' and what is 'real' is precisely the distance that separates what can be *known* from what *is*, in other words we might imagine that Lefebvre, while making theoretical claims to epistemology, is, in fact, opening up an urban *ontology*.[26]

The Virtual as the Possible Real

In their book *A Thousand Plateaus*, Deleuze and Guattari developed their theory of assemblage which they applied to, among other things, society and social formations. The idea includes the observation that society is not, nor has it ever been, based on a stable ontology (either ideological or material). They posit a conceptual difference between two terms: 'limit' and 'threshold'. The former being that which designates the penultimate, marking a necessary re-beginning, and the latter the ultimate, marking an inevitable change.[27] At issue here is the condition of mutation and change, more precisely, the problem of the discrete and the continuous or the actual and virtual. Assemblages resist an organismic approach that seeks to understand the social as an inextricably linked combination of interrelated parts. Instead, the assemblage conceptualizes relations as contingent as opposed to necessary and thus fundamentally indeterminate as opposed to probabilistic.

Lefebvre, referring to what he will later describe as the 'theory of complexification' (whereby social phenomena have progressively acquired greater complexity), discusses the problem of the theory/praxis axis. Arguing that the expression 'urban society' should not be understood as merely a pedagogical or rhetorical device, but one which, as we have already suggested, decisively compels, as he puts it, 'its own theoretical position'. However, as we might expect, he goes on to suggest that this theoretic must also move toward the 'concrete', leading to a properly 'urban practice'. Simply put, Lefebvre's concrete must here be understood *as* social practice.[28] Nevertheless, in order to enter this domain of the concrete we must recall

that here we will not find a precise, or empirically supportable, set of conditions (facts) by which we can derive what he refers to as this new 'urban reality', or product, so to speak.[29] The development of such a theory, he argues, asks for research into the *virtual object,* and understanding (and defining) this object must be seen as part of a continuous project.[30] We will have reason to return several times to this idea of the *possible*, the futurity held within, if not yet projected by, this new urban reality as such. But for now, we should simply recognize that it is within this process of asserting the theoretical necessity which the 'urban society' itself compels, that we are now addressing not only the meaning or the signification of this term – the *what it is* – but more importantly we are beginning to reveal its function – the *how it acts* – within this discourse on 'urban society' whether virtual or actual.

To further support his theoretical hypothesis, Lefebvre draws on a concept referred to as 'transduction', succinctly defined as 'an intellectual approach toward a possible object'.[31] In *Writings on Cities*, Lefebvre argues that transduction 'elaborates and constructs a theoretical object, a *possible* object from information related to reality … [it] assumes an incessant feedback between conceptual, the framework used, and empirical observations' (insisting on defining its own traits, in a self-capture). Its theory … gives shape to certain spontaneous mental operations of the planner, the architect, the sociologist, the politician and the philosopher.'[32] Lefebvre draws on an example with the expression 'urban revolution', explaining that the term refers to processes of transformation. Transformations, he suggests, are sometimes abrupt and at other times they are gradual, planned and determined. He further provides with 'urban revolution' the condition that the term does not refer to actions that are violent – the moment of revolution per se – however, nor is violence excluded.[33] He asks: 'But how do we discriminate between the outcome of violent action and the product of rational action before their occurrence? Isn't thought characterized by the effort to reduce violence, beginning with the effort to destroy the chains that bind our thoughts?'[34] Foucault has no need to vacillate on this point, as he writes: 'Humanity does not gradually progress from combat to combat until it arrives at universal reciprocity, where the rule of law finally replaces warfare; humanity installs each of its violences in a system of rules and thus proceeds from domination to domination'.[35]

In the chapter sketching the history of development 'From the City to Urban Society', Lefebvre argues that what we see when attempting to identify urban society is the *effect of process,* hereby equated to urban reality itself. Subsequently he situates this as the new and pressing *problématique urbaine,* positing 'if an urban reality manifests itself and becomes dominant, it does so only through the urban problematic'.[36] The significance of the term *problematic* as it is used here imparts a critical position. The term provides for a double inference; first, the problematic

provides for *a set of questions* to which the theory must address answers, and secondly, it acts as *the conceptual frame* by which the questions derive their significance.[37] Foucault, too, recognized the importance of 'problematizations', linking them to 'the development of a domain of acts, practices and thoughts'.[38] Lefebvre precisely follows on this point by articulating a series of questions; culminating in one of particular bearing here; he asks: 'can we achieve significant progress in theory and practice so that our consciousness can comprehend a reality that overflows it and a possible that flees before its grasp?'[39] With this question we are led back to the problem of the *possible* and its relation to the *actual*, or, as he characterizes it, the 'real'. Suggesting that we should not forget that even at its inception, urban society and its modalities and processes retained characteristics already determined under the rubrics of industrialization; but furthermore, even with the term 'industrialization' we must recognize multiple and different modes of processes and practices as they are associated with conditions which emerge and become part of the problematic of the urban phenomenon. And with this we see the appearance of a new and, as Lefebvre refers to it, abbreviated form of 'urban society', with this second appellation: 'the urban'.[40]

'The *urban*' was already utilized as a signifying (as opposed to descriptive) term in 'The Right to the City'. There he used the term primarily in italics – *the urban.* With few exceptions, in the *The Urban Revolution* he removes this emphasis, indicating that the function of the term has shifted in relation to the problematic as posed in each of these works. This brings us back to the strategy of naming and gives us opportunity to pick up where we left off above in discussing both its significance and purpose. With the addition of a definite article, he converts an adjective – urban (society) – into a noun – (the) urban, providing for a rotation from the descriptive to the substantive. Clearly the noun 'urbanity', was not adequate to his aim. This is certainly something other than a philological sleight of hand; and, as he argued already with the use of the term 'urban society', it is much more than a mere pedagogical device. We noted earlier that he applied the term 'urban society' to the current state of affairs (global in reach), in place of the more commonly used term 'post-industrial society'. Further, that this term should be used in place of other designations such as 'the technological society', 'the society of abundance', 'the leisure society', 'the consumer society', etcetera. Of course, in its most simple formulation *the urban* only further replaces these other significations. However, to the same end, could he not have stayed with the means already employed and expressed with 'urban society' and 'urban reality'? But this is not the case, and it should be clear that there is nothing arbitrary about this renaming. It is, in fact, a conceptual if not methodological reframing of the problematic itself.

With the articulation of *the urban,* Lefebvre not only replaces, or excludes, these previous terms, he includes all things within the complex of 'urban society' itself. In this sense he enfolds the multiplicity of conditions (both process and product) by which we can identify a particular period by sets of predominance or dominating socio-economic activities or socio-politic structures – that is, at the level of specific associations with technology (Paul Virilio), spectacle (Guy Debord) or information (Manuel Castells); or at the level of general associations with globalization (Saskia Sassen), high capitalism (Fredric Jameson), or postmodernity (Jean-François Lyotard, David Harvey et al).[41] In other words, *the urban* acts it gathers within its designation, perhaps by the very lack of its referential claim to activities and structures, the very continuities (Peirce's Synechism) and *possibilities* which he associates with the virtual object. Lefebvre elaborates this with the example of the noun city; writing that the term 'urban' is preferable to 'city' as the latter seems to designate a clearly defined object, 'a scientific object and the immediate goal of action, whereas the *theoretical approach requires a critique of the "object"* and a more complex notion of the virtual or possible object.'[42]

Henri Bergson, in referring to the problem of the *real*, of a movement (which is life and within life), offers another point related to linguistic formulations such as these. He argues that the mind has a way of stabilizing movement that is represented in the form of a 'motionless design' in three ways: as qualities, forms of essences and acts. He offers a correspondence to these categories in the form of adjectives, substantives and verbs respectively. The first two he suggests 'symbolize *states'*, while the latter is related to movement, 'the verb itself, if we keep to the clear part of the idea it calls up, hardly expresses anything else'.[43] What Lefebvre is missing, what his rotations in terminologies predicate but don't quite fulfil, could perhaps be accomplished if he were to pose the term for the urban in the form of a verb as opposed to a noun. That is, if they are to perform in correspondence to his requirements for non-limited and open as opposed to limited or closed systems, giving action, not merely description or definition, to the 'there is' of urban. Foucault also acknowledged the dynamic importance of the spontaneity or the 'there is' of language. Our concern in this sense remains with the possibility of the new and the emergent, those *actualizations* which evade *realization,* even if *momentarily*, in what we may think of as the interstices of thought (within thinking) itself.

The *urban*, used as an enunciation, identifies (perhaps it even captures) the nature of Lefebvre's *problématique urbaine.* Further, and importantly, he continues with the idea of the virtual claiming that the urban cannot be understood as an 'accomplished reality, *situated behind the actual in time*', but, on the contrary 'as a *horizon*, an *illuminating virtuality*.'[44] He then returns us to a recurring question asking whether theoretical knowledge can treat this virtual object as an abstraction, and clearly

affirms that it cannot. Exactly as we would expect, he writes: 'theoretical knowledge can and must reveal the terrain, the foundation on which it resides: an ongoing social practice, an urban practice in the process of formation.'[45] We will provide a further condition with what is often referred to as virtual visibility or a visibility outside the gaze: that which is revealed in forms of visibilities must not be reduced to its object, to a perceptible thing or quality, as such, to merely a physical environment to which it aspires, or in which it transpires.

In Lefebvre, the 'virtual object' thus described is inscribed in what is commonly understood as a space-time axis. And it is with this that we open onto what might be considered the weakness of his doctrine. For, as such, it can be seen as a possible futurity, based on its historical (*pre*)determinations, however complex. In short, this is understood as historical time.[46] Yet, to equate the virtual with the concept of a future – placed on the (linear) temporal axis of past/present/future – points precisely to that which 'pre-exists its object'– a condition, as mentioned above, that Lefebvre argues against. However, it is also clear that Lefebvre believes that this 'virtual object' cannot be fixed, for it is that which he places over and against the false problem posed in conceiving the urban as an already accomplished reality. The danger remains that in reading his space-time axis as one that follows the historically determined (and determining) arrow of time we run the risk of subverting the creative and spontaneous to the teleological, if not causal. Lefebvre waivers here, and we believe he does so for good reason.[47] On one side he knows that 'urban reality' is made of a plurality of 'urban practices'; these practices being 'concrete' (material) and not 'abstract'; on the other he believes that the virtual object stands 'outside the global . . . crisis of reality and thought.'[48]

Continuing further on this decisive point, in the chapter entitled 'Blind Field' Lefebvre continues to advance his theory of the virtual by addressing the space-time axis. He argues that 'with the arrival of history, our awareness is able to grasp two opposing movements', described as either '*regressive* (from the virtual to the actual, the actual to the past) [or] *progressive* (from the obsolete and completed to the movement that anticipates that completeness, that presages and brings into something new).'[49] Although it could be argued that Lefebvre's very reliance on this trajectory, past-actual-virtual (past-present-future), aligns his own theories with the reactionary (regressive), as opposed to visionary (progressive), approach. In short, it appears as if Lefebvre uses the terms 'possible', 'virtual' and 'future' synonymously and the conflation of these distinct designations provides for an elementary limitation in his argument. For if we understand the *urban problematic* to be one which addresses merely the 'possible' then we are doing little more than arguing that the once 'deterministically related' and 'empirically observable' conditions of *modernity's urbanism* – this term used to indicate the idea of a totalizing view which held to the

belief that intention could control outcome – are no longer predictable as such. Whereby, due to the rising level of complexification, of the influences acting upon and emanating from the city itself, we can no longer calculate the outcome of forces (again) acting and being acted upon in regards the 'futurity' of the city, or 'urban society'. In Lefebvre the possible indicates not only the 'not yet known / not yet real'; but the 'will be' / 'already determined' of *the urban*. In other words, as we above challenged the implied unity or 'organicism' of his framing terminologies on knowledge, we might now suggest that his axis of time offers little more than a reiteration (albeit in a renewed form) of what he already rejected as the 'ideology of continuism'. Repeating his above definition: 'this urban society cannot take shape conceptually until the end of a process during which the old urban forms, the end result of a series of *discontinuous* transformations, burst apart'.[50]

The argument is that Lefebvre's formulation constructs the possible as a discrete as opposed to continuous multiplicity, which can only be grasped once it has become real (or realized). Bergson suggests that possibility does not precede reality, but only once a reality has appeared (become actual) can we then look back and find what we believed to be the inevitable 'futurity' held within the past.[51] Further, in positing the 'virtual' in opposition to the 'real' we have not yet accepted the real of the virtual. In other words, the virtual as it is involved in the process of open actualities (not *the* actual) should be understood as much more inventive (spontaneous) than the possible, which is given only in realization. Simply stated, we must distinguish between the realization of a possible and the actualization of the virtual. Further, understanding with this that the virtual *acts*, and it does so by its engagement in a continuous process of differentiation, here we are also speaking of the continuous versus the discrete, and as mentioned above, with the creativity of language, it simultaneously ceases to be itself while retaining something of itself. This ceaseless folding and unfolding of the virtual (not the possible) is precisely what define the very mode of its activity, the 'what is' of the virtual itself. The virtual, as such, can be seen as in a process of progressive differentiation. But the key to understanding this is to recognize that in this process, and within the movement of its actualization, the virtual differentiates not with respect to matters of degree, but in relation to matters of kind.[52] And returning to the distinction made above regarding that which 'exists' and that which is 'real', we would add that although the virtual *is* real it does not predicate this 'real' on that which can be said to 'exist', but rather subsist. The tendency to stabilize these notions, to set them into a precise relationship (of before and after) belongs more to the structure of analysis and is useful as such. However, if, with Lefebvre, we wish to open up a revolutionary critique of the 'virtual object' we will have to find another, more supple discourse by which to advance not only our knowledge but our understanding and actions as well.

The Urban Not-Seen

Continuing the commentary on *The Urban Revolution*, in the chapter entitled 'Blind Field', Lefebvre writes that 'the future illuminates the past, the virtual (possible) allows us to examine and *situate the realized*.'[53] He argues that the concept (also the phenomenon) of a 'blind field' necessarily entails dark moments, events and forces that slip through our intellectual and perceptual grasp. Like the blind-spot in vision – not merely a dark region but the very negation of vision – accounting for painful transitions in any 'critical phase' of socio-spatial evolution that, though present and active, go unnoticed due to embedded ideological assumptions. They produce 'floating signifiers' to the signified of the sign. We can understand this as 'verbal layers … unable to attach themselves to a "philosophical subject" or a "privileged object" or a "historical totalization".'[54] Blindness: we are operating without sight, we are also unable to speak. In developing his metaphor of blind fields Lefebvre demonstrates that urban practice and theories continue to utilize the tools and language of a past period (the industrial) and as such must be understood as '*reductive* of the emerging reality'.[55] Similarly, in its most simplified formulation, Foucault's definition of 'archaeology' (as a study of stratifications) is that it works to discover the form of expression proper to each discourse, or form (each *episteme*). More critically, as Deleuze phrases it: 'the task of archaeology is double: it must *open up* words, phrases and propositions, *open up* qualities, things and objects. It must extract from words and language the statements corresponding to each stratum and its thresholds, but equally extract from things and sight the visibilities and "self-evidences" unique to each stratum.'[56]

Keeping with this problem of that which operates outside of sight, outside of speech, Lefebvre utilizes linguistic references to further his argument. In the chapter entitled 'The Urban Phenomenon', referencing the philological model of 'speech acts, discourse (*parole*), semantics, intelligibility' of Ferdinand de Saussure and Noam Chomsky, Lefebvre draws out the condition referred to as '*presence-absence*'.[57] Here he points out that speakers who 'know their language' have no need of linguistic rules in order to employ language. In fact, he suggests that the very efficiency of speech relies upon the '*absence* of system at the level of effects, acts, and events, even though its *presence* is manifest to varying degrees.'[58] He includes a stipulation, stating that while the underlying system is necessarily hidden from immediate awareness, its concealment *'*cannot be absolute' as understanding inevitably reveals it, bringing it out into the open. Returning to Deleuze on Foucault, he similarly writes that within a given age 'nothing is ever totally hidden; neither is it immediately revealed'.[59] Through dispersion and dissemination stratifications emerge and, as quickly, they disappear. The disposition of this argument reiterates the point of the open machine versus the closed system. Lefebvre formulates another question with

which to further the problematic, asking if the urban might be conceived along these same lines, considered as a virtuality, a presence-absence.[60]

In developing the notion of presence–absence Lefebvre gives examples in relation to linguistic tropes. To get at the relevance of this figure of thought (or thought model) to architect and urban theory it will prove useful to discuss the distinction Foucault draws out between statements (belonging to speech), and visibilities (belonging to light or luminosities). Visibilities are not merely what we may commonly conceive them as – in other words, they are not limited to perceptible objects, qualities, or things. Visibilities are not those forms or objects that belong exclusively to the perceptual apparatus of vision, or seeing. For Foucault, visibilities are forms of 'luminosity', they are created by light and they allow a thing or object to exist as 'a flash, sparkle or shimmer'.[61] With Deleuze we find a correlation to the statement cited just above in Lefebvre, 'visibilities are never hidden, they are none the less not immediately seen or visible. They are even invisible so long as we consider only objects, things or perceptible qualities, and not the conditions which open them up.'[62] An example of architecture is also provided whereby visibilities are not defined by virtue of the quantitative (enumerating) aspects typically attributed to form (buildings as objects); but, 'first and foremost forms of light (qualities) that distribute light and dark, opaque and transparent, seen and non-seen, etc.'[63] To further elaborate this example it is sufficient to recall Foucault's well known example of the Panopticon but it is important to include a caveat: while this example can easily be read figuratively, it should be read quite literally. In other words, the description should not be generalized but should remain where it is, as a point of articulation illuminating a particular structural relationship and not as a formal description of an aspect that can be applied to buildings in general, the aspect of 'light' as it is commonly understood. [64]

In *Discipline and Punish*, Foucault describes the Panopticon in terms of 'luminosity'; whereby it is light which makes possible that the prisoner is in the view of the guard, while the guard (who is held in shadow) is prevented from being viewed by the prisoner.[65] Thus, constructing what Deleuze describes as the 'machine of the prison'. Visibilities are inseparable from the machines that produce them (as the statement is inseparable from the system in which it is produced). This can be understood as a doubling of light and luminosity, whereby in the first instance light opens up things and brings them into visibilities, and in next these things which now *are*, are contained within the second movement. Having passed into perception (Lefebvre's 'real'), the flash becomes a product which is something other than its process. Lefebvre also constructs a similar 'doubling', discussed in terms of the 'two-fold'. Reiterating this in terms of historical formations or stratifications, conditions are provided for visibilities (just as they are provided for statements). To be precise:

although light can contain objects, it cannot contain visibilities; and similarly, although language can contain words it cannot contain statements.

The Will to Pure Form, Function and Force

In *The Urban Revolution* Lefebvre describes a historical process by which 'the city', as such, was no longer recognizable as a totality, as a singular entity. In the opening pages of the chapter entitled 'Urban Form', he attempts to delimit terms such as 'form', 'content', 'substance' and 'function'. Although Lefebvre admits of both the ambiguities and the plurality of meanings surrounding such terms,[66] they are utilized to denote the distinction between what once was the 'city' (artisanal, manufacturing, industrial, and so on) with what is now 'the urban'. The 'urban reality' (not to be confused with the urban form) has thus shifted to fragmentary, shapeless disjunctions. Functions, including such categories as administrative, productive, commercial, he argues, are no longer clearly delineated or structured. They have a 'twofold character'; on one side the urban administers, dominates, and quite literally covers, territory; on the other side this territory is itself administrating and dominating ('to the extent that it is and because it is dominating'). He argues here that the urban phenomenon itself is located at the 'juncture of these twofold functions, their point of articulation'.[67] To develop this this point we will further consider these two characteristics, first identifying the possible site of this juncture and secondly the conditions of its articulations. In doing so, we will discuss the nature of power both by virtue of its presence and its absence. If we are to understand the relationship between power and knowledge as dynamic (continuously folding and unfolding) we cannot stop at the point where speech or sight generate things as forms and power generates probabilities as force.

Power relations between dominating and dominated structures alternate continuously. In 'On Urban Form' this is put simply: a form which has become function enters into new structures. Lefebvre describes two such structures: the morphological and sociological.[68] The former denoting sites, buildings, streets, squares and so on, and the latter being understood as distributions of population, age, sex, and the like, whether active or passive, socio-professional categories, managers and the managed.[69] Just as in the case of the functions, so do the structures of this phenomenon operate in a twofold relation. Form, understood more conventionally, also exhibits this twofold, perhaps even a folding, of the plastic, in one sense traditionally formal, and in the other sense dynamic in respect to the necessity of circulation; in other words, to the geometric he adds movement. Seeking to imagine where the forces of this 'new urban' reveals itself – *the urban* as spectacle, consolidating and expanding (contracting and dilating) before the eyes of the spectator – he provisionally and provocatively uses the term '*elsewhere*'.[70] With

this we understand that forces do not simply reveal themselves (their structures) in cleanly delineated forms; there is no transparency, no precise correlation between the two. Deleuze is very direct on this point: 'an exercise of power shows up as an affect, since force defines itself by its very power to affect other forces … and to be affected by other forces'.[71] Forces are spontaneous and receptive (as with speech and visibilities) and they simultaneously hold the power to affect and be affected. Continuing on this point, again with Deleuze, 'the power to be affected is like a matter of force, and the power to affect is like a *function* of force … but, it is a pure function, that is to say a non-formalized function, independent of the concrete forms it assumes, the aims it serves and the means it employs.'[72] Any equilibrium that the forces can claim (or symmetry that we wish to assign to forces) can be captured only as a temporary (metastable) condition.[73] To which we will find applied our ability to form the snapshot view utilized in the structure of an analytic. Categories of power should be understood as determinations unique to the particular action and its particular medium. 'Pure form' can here be thought further as 'pure function': function not meaning what it possesses, or what it is, but more importantly, how it acts. Lefebvre's 'juncture' gives way to what he later describes as 'rupture'.

In addressing the problem of 'content', Lefebvre asks: what does the city create? To this question he responds that it creates nothing. Because, he argues, the city 'centralizes creation' in that it affords the form, the 'situation', for exchange and proximity to take place; in short, it provides for relationships of difference to be established.[74] The urban, he concludes, 'is a place of encounter, assembly, simultaneity'; but, this form, he adds, has no specific content, for it accumulates all content; it is an abstraction, 'but unlike a metaphysical entity, *the urban* is a concrete abstraction' it is 'pure-form'; it also precludes defining it as an object (substance) or subject (consciousness).'[75] In 'On Urban Form', Lefebvre further argues that once social, institutional, spatial structures become codified into diverse contents such as objects, situations, activities, 'form detaches itself from content(s) … thus freed, it emerges pure and transparent: intelligible. That much more intelligible as decanted from content, "purer". But here is the paradox. As such, in its purity, it has no existence. It is not real, it is not.'[76] It is worth noting the shift in Lefebvre's delivery on the concept of pure form; in 'The Right to the City' the pure term needs no qualifiers, for such is the nature, the extent of this purity that it does not even exist. A person might occupy for hours if not a lifetime the space of the metaphysical abstraction that Lefebvre creates with the final three words in the statement 'it is not real, *it is not* … .' Yet, in *The Urban Revolution,* published only two years later, Lefebvre is searching for something more tangible, the abstraction here becomes qualified by the term 'concrete'. However, by his use of the term 'tangible' we should not understand something which has conventional material substance or form; for with the term 'concrete', as stated above, we must understand this to mean social practices.

In Foucault we do not see the importance of the term 'pure form' but instead that of 'pure function'.[77] Returning to the example of the Panopticon we will clarify some aspects of this terminology. The Panopticon is understood as a 'pure function' in that it imposes particular requirements on a multiplicity of particular individuals. However, allowing for the possibility that neither the form (prison) nor the function (discipline) will remain constant, Foucault develops a concept of the 'diagram'. For example, by extending the categories of defined activity in the form-function-substance relationship, the form 'prison' extends to 'school' and 'factory', which supports the end function 'discipline', shifting to 'education' and 'production', and the substance 'inmates' is exchanged with 'students', 'workers' etcetera.[78] Further, and remaining with the case of the prison, in addition to the 'disciplinary function' another function emerges, that of 'administrative control' (Lefebvre uses the term 'technological' to denote legislative or administrative practices). Deleuze specifies two pure functions, as 'anatomo-politics' and 'bio-politics' and their 'bare matter' are, respectively, a *particular* body and a *particular* population. The *politics of the body* here becoming more urgent than the *social body of the urban*.[79]

To the Point of Articulation

Let us return to Foucault on the point of 'articulation' of the 'twofold' relation, whereby we understand the difficult and enigmatic relation (or non-relation) between the articulable and the visible, between strata of knowledge functioning in relations of power. Deleuze puts it simply: there is no isomorphism between statements and visibilities.[80] Although we speak of what we see and see that of which we speak in a simultaneous motion, their structures remain distinct and irreducible. Yet the two comprise the stratum, and from one stratum to the next they are transformed at the same time (although not according to the same rules). 'Between the visible and the articulable we must maintain all the following aspects at the same time: the heterogeneity of the two forms, their difference in nature or anamorphism: a mutual presupposition between the two, a mutual grappling and capture'.[81]

The point of articulation located at the juncture of the dominating and dominated seeks to make use of similar terms, in understanding that there is no absolute balance of powers, but instead a continual shifting between varying types of forces. Power relations are highly dynamic, 'simultaneously local, unstable and diffuse'.[82] Power relations do not emanate from a distinct or central point, they move; they shift from one point to another with facility and ease. Their medium is the field of all forces (pure force), they are capable of marking inflections, resistances, twists and turns, when one changes direction, or retraces its steps. This is why although they are 'particular' they are not 'localized' at any given instant.[83] In Deleuzian terms,

they constitute a 'strategy', strategies which are 'anonymous', and almost 'blind and mute' since they 'evade all stable forms of the visible and articulable'.[84] Lefebvre also understood this notion of the strategic, discussing the urban as sometimes productive and sometimes that which is produced by forces too complex to analyse without developing a new theoretic.[85] He further brings in the concept of 'rupture', ('disjunction') understood as the discontinuity of the urban with what before was understood as city, adding that this rupture 'simultaneously introduces and grounds a form of knowledge, a field … similar to logical form and almost as abstract and active as that logical form which is associated with language'.[86] For, as stated above, if we are to comprehend the dynamic relationship between power and knowledge we must search beyond the point where speech or sight generate things as forms and power generates probabilities as force.

On this issue we might further extend the qualification which Deleuze makes in arguing that relationships between forces remain 'transitive, unstable, faint, almost virtual, at all events unknown, unless they are carried out by the formed or stratified relations which make up forms of knowledge.'[87] Power relations – their affects – can be seen as being actualized (thus stabilized and stratified) through their integration into formalized structures. This, as mentioned above, is provided for in the operation by which we construct an analysis, whereby we temporarily homogenize particularities and read them as general lines of force. This is, of course, an operation that is carried out in all practices, whether social, political, economic or spatial. And, importantly, it is for this reason that the various forms of institutions (urban policy makers in governmentally sanctioned administrations for instance) have the ability to integrate the fluid and transgressive power-relations by constituting them (bringing them into sight and speech, making of them visibilities and statements which can be manipulated and distributed) as forms of knowledge. Citing Lefebvre from his chapter 'Levels and Dimensions': 'simultaneously social [political] and mental [logical], this level projects itself into part of the built domain … it is the level associated with what I refer to as *institutional space* … this assumes, if not a system or systems of explicit action, at least some form of systematized action'.[88] Or, the institution as it is understood not as an entity but as a practice, not as productive but as reproductive of the very relations which they presuppose. In Foucault, it is the institution (state, family, market, culture) that is made by these so-called integrating factors or 'agents of stratification'.[89] The 'twofold', which we saw above with Lefebvre, approximates this aspect of integration.

No matter how hard we work to distinguish the static and the dynamic (the stratified and the strategic in Deleuze), by its very nature, to think these things, to inscribe then in the lines of this, or any text, is also to capture and thus stabilize them. To reiterate; in Foucauldian terms, visibilities expose formed substance, statements

reveal formalized or finalized functions. Knowledge thus gives rise to formal categories such as 'discipline', 'educate', 'administer', and so on. Power, on the other hand, is force, possessing affective categories such as 'incite', 'provoke', 'pacify', and so on. Power forces pass through vision and sight, speaking and seeing in order to be actualized. In Lefebvre's terms perhaps, does force become form (*the urban* as 'pure form')? The short answer is, yes. However, as we might expect, this is a fleeting affirmation, for it excludes any possibility of coincidence. For actualizations form integrations, but only by also creating a system of formal differentiation, and by so doing they remain multiple, both local and partial, exhibiting 'affinities' with, or tendencies towards, other particular points in this field of forces. Lefebvre suggests that 'reflection', so defined, extends the problematic and can elaborate a '*scheme of forms*', what he refers to as an 'analytic grid' ('provisional and modifiable') which can 'decipher the relations between the real and thought', and which 'can move from the most abstract to the most concrete.[90] Form, pure form, *is not*, it is absence; and simultaneously it makes all things into presence. But, these *things,* and *non-things* can only be seen and spoken about by virtue of analysis and of thought (speech) alone. This problematic is anything but new to philosophy, whether one wishes to employ the terms of substance and form, of the material and the ideal, body and mind (spirit), the visible and the invisible; the list is extensive and the distinguishing characteristics provided by each uniquely differentiated. In Bergson, for instance, the life of the 'real' belongs properly to theories of time, which therefore cannot be thought, for thinking is, itself, a spatializing, thus hypostatizing, practice resulting in what he refers to as 'discrete' as opposed to 'continuous' multiplicities. However, when it comes to the city as a concrete entity as well as the urban, when understood as a series of concrete practices, this problematic becomes pressing. For the city and its subjects not only act, but they are acted upon; and this ceaseless push and pull, this folding of forces, must be understood epistemologically and situated ontologically if the architect, the sociologist, the practitioners of socio-spatial practices are to 'act' as opposed to continually 'reacting' to the multiplicity of forces at play.

By detaching itself from its content, form detaches itself from the concrete. The summit, the crest of the real, the key to the real (of its penetration by knowledge and the action which changes it), it places itself outside the real. Philosophers have tried to understand for two thousand years. Nonetheless, philosophy brings the theoretical element to this knowledge. The approach is in several states and has a strategic objective. That is to grasp through the movement of reflection which purifies forms and its own form, and which codifies and formalizes the inherent and hidden movement of the relation between form and content. There is not form without content. No content without form. What offers itself to analysis is always a unity of form and content. Analysis breaks this unity. It allows purity of form to

appear, and form refers back to content. Yet, this indissoluble unity, broken by analysis, is conflictual (dialectic). By turns thought goes from transparent form to the opacity of contents, of the substantiality of these contents to inexistence of "pure" form, in a ceaseless if not momentary movement.[91]

To do justice to the above passage from 'The Right to the City' it would be necessary to begin this chapter again by returning to the concepts introduced in terms of the notion of the virtual. In so doing, further elaborating on the qualities that distinguish the virtual from the actual, among them their respective attributes of differentiation over that of similitude; in other words, we would have to question the very nature of creative problematizing, in fact, the notion of the *new.* For in The Urban Revolution, it was possible for Lefebvre to write: *creation comes to a halt to create again.* Yet, it becomes increasingly difficult today to identify the pause between the continuous and the discontinuous that allows us to imagine life's arrest, of this thing that *flees before our grasp.*

An extended version of this chapter has appeared under the title 'Problematizing the Virtual: Lefebvre and the Urban Problematic', in *Visualizing the Invisible, toward an urban space*, eds. Stephen Read and Camilo Pinilla (Amsterdam: Techne Press, 2005).

Notes

1. Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*, trans. F.L. Pogson, (London: George Allen & Unwin Ltd., 1910): 83.

2. Bruno Latour, 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern', *Critical Inquiry* 30, no. 2 (Winter 2004): 225–48.

3. The virtual, as a notion, belongs most properly to the domain of philosophy; however, as a concept, it has become increasingly important within architecture and urban theory and design discourses in general. Similar concepts have been explored under such terms and dualisms as: emergence, potential, immaterial, abstract and, respectively, constructivism, possible, material, and concrete. Of course, the virtual is most often placed in opposition to the real.

4. Lefebvre, *The Urban Revolution*.

5. Definitive replies to this work from social and urban theorist which were also framed in the Neo-Marxist and post-'68 problematic, were most notably provided by: Manuel Castells, *The Urban Question*: *A Marxist Approach* (Cambridge MA: MIT Press, 1979 [1972]) and David Harvey, *Social Justice and the City* (London: E. Arnold, 1973).

6. By 'moment' I mean something that cannot be captured by a spatio-temporal designator but something akin to Foucault's notion of Episteme in relation to a historical yet non-temporal epoch. I have treated this moment and its theoretical implications in other works. See: D. Hauptmann, 'Repositioning: The After(s) and the End(s) of Theory,' In *This Thing Called Theory*, ed(s) T. Stoppani, G. Ponzo and G. Themistokleous (London: Routledge, 2017); and my 'Forward' to *Writing and Seeing Architecture: Christian de Portzamparc and Philippe Sollers* (Minneapolis, London: University of Minnesota Press, 2003).

7. For a brief account of Lefebvre's position towards Foucault see the introduction by Eleonore Kofman and Elizabeth Lebas, 'Lost in Transposition,' in Henri Lefebvre, *Writings on Cities* trans. Eleonore Kofman, and Elizabeth Lebas (Oxford: Blackwell, 1996).

8. Lefebvre, *The Urban Revolution*, 1.

9. Similarly, in thinking with Foucault we must not ask the question of what power is, or, from where does it emanate; but we must ask the much more precise question of how power is practised.

10. Lefebvre, *Writings on Cities*, 109. Chapter 8, 'The Right to the City'.

11. The question of appropriate philosophical or analytical method is continually referred to in Lefebvre's work. In his last book for instance, *Rhythmanalysis,* trans. Stuart Elden and Gerald Moore (New York: Continuum, 2004 [1992]), Lefebvre opens his argument by drawing the distinction between speculative philosophy (moving from abstract concepts to concrete evidence) and analytic philosophy (starting with the particular in order to derive general conclusions), determining that the study of rhythm to follow the path of the former, conceptual turn within his study. Nevertheless, the theoretical lines which distinguish these ways of working are rarely so clearly followed in Lefebvre as they are distinguished by his stated claims.

12. Although many may find it difficult to reconcile the work of Lefebvre and Deleuze, I find it conceivable here to think of them with the following alignment towards the concept: whereby the concept, as such, should not be thought in terms of generalities such as Truth, Universality or other globalizing notions; but, in terms of the situated, the specific and contingent, or localizing concepts that have efficacy in relation to a particular set of actualizations and concerns.

13. Lefebvre, *The Urban Revolution*, 1–2.

14. Ibid., 2.

15. Ibid.

16. Brian Massumi, 'Like a Thought', in *A Shock to Thought: Expression after Deleuze and Guattari,* ed. Brian Massumi (London, New York: Routledge, 2002), xxvii.

17. The problem of appropriation is well known in cultural theory discourse in areas such as post-colonialism, feminism, and queer studies. Writers such as Edward Said, Bell Hooks and Gayatri Spivak come to mind.

18 Although in other circumstances, the assigning of a name is also an act that delivers agency to an individual or body. Put simply, in the bringing forth of a *thing*, its agency and right is endowed. However, this does not preclude its immediate appropriation by another individual, body or thing.

19 Massumi, 'Like a Thought', xxviii.
The full extent of this notion of 'capture' cannot be enumerated in this essay, suffice to say that the problem to be addressed is how an expression can not only resist (for it cannot indefinitely deter capture) these forces of stratification, but how processes can continue to cross the gaps and transform themselves in the passing. Further, questioning how the 'intermediate' state between 'states of things' can be sustained.

20 Lefebvre's 'episteme' has affinities to Thomas Kuhn's application or the term 'paradigm' used to designate scientific or theoretical models shared by an intellectual (scientific) community. Here he includes the term methodological as he will later relate his method to other so-called scientific procedures. I will forego an extended explanation of Lefebvre's formulations on this account, only to say that even a cursory glance over Chapter One, 'From the City to Urban Society', will quickly illuminate this point for the reader.

21 Lefebvre, *The Urban Revolution*, 3.

22 Ibid.

23 Gilles Deleuze, *Foucault*, trans. Sean Hand (Minneapolis, London: University of Minnesota Press,1998), 83.

24 Ibid., 61.
In Deleuzian terms we can say simply that there is no 'isomorphism or conformity' between a statement of knowledge and the object of which it speaks, 'there is neither causality from the one to the other nor symbolization between the two'.

25 On this point I'll note the seeming distance between a traditional view of analytic perception (as a statement of what is) and the requirement to open a view to the future (as a virtual real of what may or may not actuate itself as the realized). On this point it would be fruitful to think thoroughly through Lefebvre's concept of transduction.

26 It is also possible to think Lefebvre in relation to Kant's questioning of whether a priori or synthetic knowledge is conditional on the comprehensibility of experience (one which thus exists but is not necessarily yet real if reality is determined by experience). Yet Lefebvre does not appear to be dancing between rationalism and empiricism (or even idealism and realism), for he stands decidedly with the empirical. However, it is unimaginable that he is actually suggesting an epistemology of that which 'is not'; thus, we offer the idea of an ontology to allow for the openness, the futurity, to which he alludes.

27 Deleuze and Guattari, *A Thousand Plateaus*, 438.

28 Much attention has been paid to Lefebvre's tri-part scheme of what is commonly referred to as the spaces of the 'conceived, perceived and lived', without also properly including his framework of 'abstract, absolute and concrete' space. Stuart Eldon's introduction to *Rhythmanalysis* (p. ix) makes accurate comment on this point in distinguishing the conceptual from the historical aspects within Lefebvre's work.

29 Although he also adds somewhat pejoratively, that this is what we 'expect from "urbanism" and what "urbanists" so often promise'. His discontent with architects and urbanist seems to come mostly from his experience with bureaucrats and 'planners'. It is his often-stated contention that architects operate not in the realm of the 'lived' but in that of the 'conceived' and therefore, that their 'two-dimensional' conception of the world and social relations is predicated on their planar and planner(ly) views. Ed Soja, like Lefebvre, is also profuse in his criticism of architects, urbanists and so-called 'spatial practitioners' and never tires of reminding them that they just really do not quite grasp what space actually is.

30 Lefebvre, *The Urban Revolution*, 4.

31 Ibid., 5.
The term 'transduction', later taken up and developed as a key concept in Gilbert Simondon's work, influenced philosophers such as Gilles Deleuze, Bruno Latour and Paulo Virno, among others with respect to concepts surrounding dynamic processes, energy actualization, changes of state (whether by degree or kind), individuation, new materiality, etcetera.

32 Lefebvre, 'The Right to the City', 151. (My parenthetical inclusion).

33 Lefebvre developed early in his work what he termed a 'theory of moments, by which he posited, as Eldon writes, that 'moments are significant times when existing orthodoxies are open to challenge, when things have the potential to be overturned or radically altered'. *Rhythmanalysis*, p. x. This is interesting here for two reasons: first, in reference to Foucault's theory of knowledge and its relation to power, and secondly, as this chapter draws on Bergson in its critique of the 'possible and the real', it is worth noting that it is with his 'theory of moments' that Lefebvre attempts to offer a counter position to Bergson's notion of *durée*, taken as the dominant discourse on time as taken up within French philosophy around the turn of the twentieth century.

34 Lefebvre, *The Urban Revolution*, 5–6.

35 Michel Foucault, *Language, Counter-Memory, Practice*, ed. Donald F. Bouchard, trans. Donald F. Bouchard and Sherry Simon (New York: Cornell University Press, 1980), 151.

36 Lefebvre, *The Urban Revolution*, 15.
Although the term 'problematic' has a general meaning, used to indicate a set of problems or to reveal things which are otherwise questionable, such as in the use of the verb: to problematize; the term is here employed in an Althusserian sense. Indicating a set of inter-related conditions that are at once facilitating and limiting. In his *For Marx*, Althusser describes the term as designating the particular unity of a theoretical formation.

37 We have already seen an example of this in the opening pages of the text; recall the second definition of urban society, which first offers an answer to the question of what it is, or how it came to be: as that which results from industrialization as a process of domination that absorbs agricultural production.

38 Michel Foucault, 'Ethics: Subjectivity and Truth', Volume One of *The Essential Works of Foucault, ,* ed. Paul Rabinow, trans. Robert Hurley and others (New York: Penguin, 1994), 114-119. [It would be more precise to cite the title of the essay or interview, with its translator, as a part of the volume. This source is missing from the bibliography.] Here Foucault connects problematizations to the history of thought itself (not to be confused with the history of ideas or the history of mentalities). This is relevant in the context presented here with Lefebvre as 'thought' is given a mode of 'freedom', yielding the ability to stand outside actions and reactions in order to reflect on conditions given or predetermined.

39 Lefebvre, *The Urban Revolution*, 15.

40 Ibid., 16.

41 Regarding Bergson's two types of multiplicities: one being the actual, discontinuous or discrete, the other being the virtual, the continuous or qualitative. In Lefebvre I find an ideological leaning which forces him to align with the former, while my use of Foucault and Deleuze in expanding the idea of the virtual, has me leaning on the latter. See Excursus in this volume.

42 Lefebvre, *The Urban Revolution*, 16. (my emphasis).

43 Bergson, *Creative Evolution*, 303–4. See also: Keith Ansell Pearson, *Philosophy and the Adventure of the Virtual: Bergson and the time of life* (London: Routledge, 2002), 50: 'Bergson formulates this idea eloquently: in referring to the verb and its relation to movement he writes: "and it expresses something we find hard to think (life qua the virtual or the infinitive)".'

44 Lefebvre, *The Urban Revolution*, 16–17. (my emphasis).

45 Ibid., 17.

46 This idea of 'historical time' is clearly Marxian in influence, although it is clear that Lefebvre wishes to escape the determinism of time put forward by the doctrine of historical determinism in favour of a more positive critique of space. On this point, see Lefebvre, *Rhythmanalysis,* Chapter One.

47 In exploring Lefebvre on the notion of the virtual as it appears in his *Urban Revolution,* reference to the directionality of the 'arrow of time' is warranted. However, in most of his other writings Lefebvre develops a notion of time that follows from a Nietzschean influence whereby the nature of time is regarded with respect to the notion of change and understood as cyclic as opposed to linear. Lefebvre, it might be argued, carried out this line of thinking, precisely in an attempt to avoid the teleological conclusions of Hegel and Marx.

48 Lefebvre, *The Urban Revolution*, 17.

49 Ibid., 24.

50 Ibid., 2.

51 I am here recalling another formulation of 'the possible and the real', as taken from a chapter by the same name in Bergson, *The Creative Mind*.

52 The distinction between matters of degree and matters of kind is critical to the works of both Bergson and Deleuze. See, for instance: Bergson, *Time and Free Will,* and Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994 [1968]).

53 Lefebvre, *The Urban Revolution*, 23 (my emphasis and parenthetic inclusion).

54 Ibid., 29.

55 Ibid., 26.
A common example he utilizes to further bring the image before our eyes (as all good metaphors must do) is the black box. Suggesting that theorists and practitioners watch what goes in the box, they can name and identify its contents – or so they believe – they can further watch, witness, describe and categorize what emerges from this black box; what they cannot do however, what they cannot begin to grasp is what goes on inside this box.

56 Deleuze, *Foucault*, 53.

57 For more on the importance of this concept, see: Henri Lefebvre, *La Présence et l'absence* (Paris: Éditions Casterman, 1980).

58 Lefebvre, *The Urban Revolution*, 61.

59 Deleuze, *Foucault*, 60.

60 Lefebvre, *The Urban Revolution*, 52.
At this point Lefebvre goes on to discuss his notion of a 'differential field' in regards to space-time. For more on this, consult Chapter Three of *The Urban Revolution* and Chapter Six of Lefebvre's *The Production of Space,* trans. Donald Nicholson-Smith (Oxford: Blackwell Publishers, 1991 [1986]) [source is absent from bibliography] comparatively.

61 Foucault develops this theory of visibility in his work *Death and the Labyrinth: The World of Raymond Roussel* (Oakland: University of Califorina Press, 1986 [1963]) [Absent from bibl; translator?]. In discussing what he refers to as the 'scene' by which Roussel's 'descriptions' takes on form and force, he gives his well-known example of the lightning flash which he will later discuss in relation to his concept of 'transgression', as that which by its nature illuminates the form onto which it flashes, making present not itself, the lightning per se, but that which it illuminates, the sky for instance. One thing is made visible by the presencing (or by the virtue) of the other, not by the making present of itself. For further reference see: Foucault's essay 'A preface to Transgression' in *Language, Counter-Memory, Practice.*

62 Deleuze, *Foucault,* 57.

63 Ibid.

64 For more on this distinction between the figurative and the literal, see: Manuel DeLanda, *Intensive Science & Virtual Philosophy* (London, New York: Continuum, 2004).

65 Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (London: Penguin Books, 1991).

66 Lefebvre, *Writings on Cities*, 133.

67 Lefebvre, *The Urban Revolution*, 115.

68 Lefebvre also provided for another function, the 'technological': denoting practices such as architecture, sociology, and economics; however, at this point in his text the technological has been replaced by the sociological.

69 Lefebvre, *The Urban Revolution*, 116.

70 Lefebvre, 'The Right to the City', 107.

71 Deleuze, *Foucault*, 71.

72 Ibid., 71–72.

73 J.A. Scott Kelso, 'Metastable Mind', in *Cognitive Architecture From Biopolitics to Noopolitics: Architecture and Mind in the Age of Communication and Information,* eds. Deborah Hauptmann and Warren Neidich0101 (Rotterdam: 010 Publishers, 2010).

74 The idea of 'difference' in Lefebvre compared to that found in Foucault or Deleuze: with the former, differences relate to the practice of the social; with the latter we are speaking about a process of differentiation belonging to materialist philosophy.

75 Lefebvre, *The Urban Revolution*, 118–19.

76 Lefebvre, *Writings on Cities*, 134.

77 The notion of purity is framed as a philosophical concept in addressing matters related to form and substance in Lefebvre, Deleuze and Bergson among many others. Matters are often complicated by thinking of the pure first as that which is opposed to the adulterated. Yet, within the philosophical principles employed here, it is even more ill-advised to think the pure as some form of absolute or ideal. It is not an essentialist claim, neither should it be understood necessarily as an appeal to the transcendent. It is not that which has a form that is already existent, but it is that in which form holds its potential.

78   Foucault, *Discipline and Punish*, 210–19.

79   I have included this point to indicate that the problematic of the urban, though the critical concern for Lefebvre, may be further thought by extending our understanding not only of the immanent social but the immanent political [in terms of 'another site'; that of the 'body' upon which the multiplicity of forces (both actual and virtual) are simultaneously affected and affective. See: Deleuze, *Foucault*, 72.

80   In Deleuzian terms we can say simply that there is not 'isomorphism or conformity' between a statement of knowledge and the object of which it speaks, 'there is neither causality from the one to the other nor symbolization between the two'. Deleuze, *Foucault*, 61.

81   Deleuze, *Foucault*, 67–68.

82   Ibid., 68.

83   See: Michel Foucault, 'Truth and Power', in *Michel Foucault: Power/Knowledge*.

84   Deleuze, *Foucault*, 73.

85   I should qualify this agreement, as the term 'strategy' is one from which Lefebvre takes negative inferences as he relates it to common usage whereby he distinguishes it from the 'tactical' and reserves for both terms a sense of the intentional manipulation of knowledge and power in relation to the administering and designing of cities. In his chapter titled 'Urban Form' he comes closer to this Deleuzian use of the term, although he does not name it as such.

86   Lefebvre, *The Urban Revolution*, 122.

87   Deleuze, *Foucault*, 74.

88   Lefebvre, *The Urban Revolution*, 79 (my parenthetic inclusions).

89   Deleuze, and Guattari, *A Thousand Plateaus.* For 'strata, stratification, de-stratification' see particularly Chapter 3, 6 and 12.

90   Lefebvre, *The Urban Revolution*, 79.

91   Lefebvre, *Writings on Cities*, 134–35.

4 Benjamin and Bergson: Memory Matters

The double movement by which we come to assume objective realities without relation to consciousness, and states of consciousness without objective reality – space thus appearing to preserve indefinitely the things *which are there juxtaposed, while time in its advance devours the* states *which succeed each other within it. (Bergson,* Matter and Memory*)[1]*

In the opening line of 'Some Motifs in Baudelaire' Walter Benjamin tells us that 'Baudelaire envisaged readers to whom the reading of lyric poetry would present difficulties.'[2] He goes on to question whether lyric poetry remained capable of resonating with the masses, with their experience of modernity. Benjamin continues: 'If conditions for a positive reception of lyric poetry have become less favourable, it is reasonable to assume that only in rare instances is lyric poetry in rapport with the experience of its readers. This may be due to the change in structure of their experience.'[3] This chapter will examine the constituent elements of experience as they were brought forward in Benjamin's essay; these elements include primarily a discussion on memory and perception and these as they are related to domains of time and space. By examining these structures of experience as Benjamin approximated them in terms of modernity we hope to address the constituents of experience, as they condition us today.

In order to address the problem of experience Benjamin suggests that we must look to philosophy; and the philosopher he turned to was Henri Bergson. He begins his discussion by positioning Bergson's philosophical notion of time against the literary work of Marcel Proust, further suggesting that an understanding of Baudelaire must include a reading of Proust. And just as Benjamin constructs a trajectory that links these thinkers of modernity, our own trajectory will pass through contemporary thinkers who have emerged in and after the so-called postmodern turn into what we discuss today as the cognitive turn. More importantly, we believe that through Bergson it is possible to completely reconsider our use of the terms time and

space. As seen in the previous chapter on Lefebvre, in architecture and urbanism, it is an especially difficult task to ask that we apprehend our language from within a discourse, which for such obvious reasons, privileges space over time. Even Paul Virilio, with a critical fluidity of thought that almost makes us believe that the immediacy of time has supersede meditations on space, continues to beg the question: where did the *here* of the here and now go?

Perception of Memory / Memory of Perception

Benjamin begins his argument on Bergson by questioning memory as both an element within and a condition of Proust's work. With memory, he writes, we witness in Proust 'an attempt to produce experience synthetically … under today's conditions in which there is less and less hope that it will come into being naturally.'[4] In this he is referring to Proust's lament over the inability of the intellect to summon the past upon will. The reference here is to his celebrated notion of *mémoire involontaire*.[5] The contrary of this is, naturally, *mémoire volontaire*, and voluntary memory for Proust is connected to intellect. 'And since the pictures which this kind of (voluntary) memory shows us preserve nothing of the past itself, I should never have had any with which to ponder over this residue'.[6] Benjamin cites Proust writing that the past is 'somewhere beyond the reach of the intellect, and unmistakably present in some material object. As for that object, it depends entirely on chance whether we come upon it before we die or whether we never encounter it.'[7] Proust is here referring to the material object which acts as trace, which triggers a recall of a past image, a moment in time actualized if not realized and either way a moment that has a form of objective existence on a time trajectory which moves in a direction from this moment *back* towards moments past. The past so understood constitutes the entirety of our history. Of course, when Proust recalls a 'moment' it may well require many, many pages of descriptive text to detail the moment with all its nuances and significance, thus we see not the compression of time and space (into an instant, an event) but the absolute extension of time through space spatializing all emotion, feeling and sensation so that it transcends the moment itself. Nevertheless, what remains is the fortuitous dependency on chance which allows for the breach between one's past and one's present, between tradition and progression; as Benjamin writes, according to Proust 'it is a matter of chance whether an individual forms an image of himself, whether he can take hold of his experience.'[8]

In Benjamin's view, unlike Proust, Bergson detaches memory from history. And he positions this rejection of 'historical determinism' as a reaction to 'the inhospitable blinding age of big-scale industrialism', a point we will return to below.[9] He also compares Proust's *mémoire involontaire* to Bergson's concept of *mémoire pure.10*

While he does not elaborate on Bergson's notion of memory, due, we believe, to the fact that his primary focus on experience is addressed without recourse to perception, we will offer a few remarks. Pure memory in Bergson must be described in subtle, yet fundamentally different terms than the involuntary memory of Proust. In Bergson pure memory has an intimate and immediate relation with the present while constituting the whole of the past; with Proust this includes history and pre-history, both personal and collective. It acts in terms of continuous movement, it does not collect itself in terms of discrete moments. Further, its movement is unceasing and fluid, in terms of time, as opposed to contiguous and contingent, in terms of space. Pure memory is to time what perception is to space and further, in this account, perception itself would be impossible without it. Memory as such is not a memory of a perception to be recovered as a *remembrance* (of a thing past), nor is it a vague notion of a lost instance or distant image (a picture or representation) which can be called forward and re-lived; for it *is*-lived, and it is of the essence of time, in the sense that Bergson refers to it, as *durée*. This concept (commonly translated as duration) is considered of singular importance to the core of Bergson's philosophy and will be returned to below. For now, suffice it to summarize the above as such: in the terms of Proust, it is through our present, through our accidental encounter with objects that we may, or may not, recover our past and, in the terms of Bergson, it is by virtue of the past that we are able to actualize our present.

Returning to Proust, it is relevant to ask how it is that the mind – both in the sense of body and spirit and matter and memory, and as a term we will employ wherever possible in place of 'man' – could become dependent on a chance encounter with its past in order to take hold of experience. Benjamin argues that man is becoming isolated from his ability to assimilate the data of the world around him by way of experience. In this moment of modernity, life becomes isolating, and experience suffused with isolation can only serve to estrange neighbours from their community and people from both their cities and their stories. With this, one's own identity could be lost in the masses, wavering if not struggling, in the breach between tradition and progress. Benjamin draws on the example of mass media to further explain this moment and its consequences; the intention of mass media being to bring the information of the day in a manner that above all allows the reader to dis-associate from even the possibility of engagement with the events being presented. Further, the structure of mass media itself derives from this principle of dis-association by avoiding any links or disallowing affinities to be established with the various articles of news. In other words, media in attempting to present only the present is non-narrative and as such it has neither need for memory nor for the past. It is, in this sense, pure stimuli, in fact, synthetic. How then are were we supposed to recover, much less to recall, ourselves in this flux, within this barrage of meaning-less, non-symbolic images and information? And if we had become disassociated form

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experience then how are were we to reflect upon the consequences of our actions? Again, the point is worth reiteration: not merely alienation – the recognition of one's otherness, but absolute isolation – the realization of one's irreconcilable aloneness, or absence. In this sense, it is not so difficult to see why terms such as 'shock', 'horror' and 'revulsion' were so commonly used by writers from Baudelaire, Poe, and Kafka to Engels and Freud to describe the mind's encounter with the density of the nameless crowd as it manifested a change in the structure of experience.

This historical determinism which, we believe, is too hastily applied to Bergson, is what motivates Benjamin's reading of resonance with respect to lyric poetry and something we will discuss shortly in terms of shock, what we have referred to above in terms of Benjamin's S*chockerlebnis*. Moreover, and in our view more importantly, we had become isolated from our very relationship to 'things', which in Bergson includes the entire of matter and memory itself.

Stimuli / Hide & Seek

In part III of 'Some Motifs in Baudelaire'*,* Benjamin turns in the direction of Freud and his 1920 essay *Beyond the Pleasure Principle.*[11] What is important in this is not to follow his brief treatment of Freud, rather not to follow the structural categories or logic of the original work, but to draw upon it in order to introduce the idea of unmediated stimuli resulting in shock. In Freud memory and consciousness operate in mutually exclusive systems. And consciousness, which is disassociated from memory, does not act as the perceptive receptor of memory, or as the actualization of perception through memory. It is not, in other words, the awareness of a present moment on a trajectory directed to the past. Its function, following Freudian theorists, is not to process but to protect, to intercept, to deflect, and guard the mind from the ever-present threat of (un-assimilated) stimuli. Benjamin writes that the unique achievement of the shock defence 'may be seen in its function of assigning to an incident a precise point in time in consciousness at the cost of the integrity of its contents.'[12] He continues: 'this would be a peak achievement of the intellect; it would turn the incident into a moment that has been lived' and even further, as an incident which, 'at its most powerful and enduring never actually enters consciousness'.[13] A virtual condition which never actually *actualizes*; 'without reflection there would be nothing but the sudden start, usually the sensation of fright.'[14]

This sensation of fright, so described, becomes a state of being in Baudelaire. Manifested externally in the form of his mannerisms (body/matter), and internally in his disposition (spirit/memory), in short, his entire being. But more importantly, it is a state which he negotiates in order to both engage the city (within space) and

simultaneously distance himself from the crowd (within time). In other words, he contracts the space of the incident and time of the lived to the point where they cross trajectories, neither one nor the other, but the both/and of the virtual, not on its way to actuation but in the self-preserving necessity to elude realization. This 'shock' as it is absorbed (contracted) by Baudelaire both reveals and conceals itself by virtue of the hidden figure of the crowd; but it is interesting to note that both the crowd and the city that contains it are only rarely actualized, either in terms of space or time, in his work. Benjamin writes:

The masses had become so much a part of Baudelaire that it is rare to find a description of them in his works. His most important subjects are hardly ever encountered in descriptive form; it is futile to search in 'Les Fleurs du mal' or in 'Spleen de Paris' for any counterpart to the portrayals of the city which Victor Hugo wrote with such mastery. Baudelaire describes neither the Parisians nor their city. Forgoing such descriptions enables him to invoke the one in the form of the other.[15]

Neither the mass nor the city is described, but each is called upon, one in the figure of the other. In other words, they are 'present without being represented': 'it is true that an image may be without being perceived – it may be present without being represented – and the distance between these two terms, presence and representation, seems just to measure the interval between matter itself and our conscious perception of matter.'[16]

If, as suggested above, a stimulus evades the deflection of consciousness and is recorded directly in conscious memory, then 'it would sterilize this incident for poetic experience'. We are reminded of a favourite passage in the 'Artist's Confiteor' of *Paris Spleen*: 'these thoughts, whether they come from me or spring from things, soon, at all events, grow too intense. Energy in voluptuousness creates uneasiness and actual pain.'[17] Thus, if a stimulus gets past the barricades of consciousness it would be neutralized into non-actualized experience. And this suggests precisely the problem of lyric poetry for, as Benjamin asks, 'how can it have as its basis an experience for which the shock experience is the norm?'[18] How can a representational form based on metaphoric narration resonate with the masses when the structure of experience has shifted to a theory based not in recognition, but in deflection? Of course, Benjamin alludes to this in his embrace of the technological invention of cinematic film where he speaks of the new and urgent need of the masses for stimuli. Where in film, 'perception in the form of shocks was established as a formal principle.'[19]

When shock becomes a formal principle, when it has been incorporated into the body of our desires, the notion of 'stimuli' becomes a different matter altogether: what before could be seen as a new product of consumption, witnessed critically

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by the advent of film, today can be witnessed, for instance, in urbanism's focus on the 'event', and further in architecture's reliance on the object of presentation, not the (Proustian) image of representation. Stimuli, in a contemporary sense, seen as a simple form of presence, of image as already neutralized information that can be individually appropriated or culturally acquisitioned and economically deployed. Further, and importantly, stimuli which are already beyond mass media theories of ideological consciousness and self-conscious reflection. According to Freud, when shock has been incorporated by memory, it manifests itself in trauma; but if we begin, as Bergson does, with memory then it is perception which buffers us in the form of the virtual. For in Bergson, only when a virtual action – and all objects, all images exist as virtual bodies in space – moves into a determinable proximity with our body, are we compelled towards action, and with action the virtual passes to the real. That which we may be missing in our current understanding of stimuli, as a (less threatening) condition of information flow, is precisely Bergson's notion of the image as that which lies between representation and the 'thing' in itself. He writes: 'my perception is outside my body and my affection within it, so my affective states are experienced where they occur, that is, at a given point in my body.'[20] Here perception is placed at the centre of the nervous impulse and understood as 'appearing at the precise moment when a stimulation received by matter is not prolonged into a necessary action.'[21] It is interesting to note that 'of all the experiences that made his life what it was, Baudelaire singled out his having been jostled by the crowd as the decisive, unique experience.'[22] The body as conscious experience, not only consciousness as a mental state, but as the last line, the last site of resistance.

Reflection/Recognition/Recapitulation

Returning to the above idea of disassociation – as that which not only estranges us from our own identity, but from the space of our own occupation within the world in which we perform – we find that in contemporary society it is precisely a new form of disassociation, of distancing as a self-conscious (self-actualizing) act of appropriation which accommodates a new form of associative experience.

The media theorist Douglas Rushkoff writes on a manner of processing stimuli into information, and of information into knowledge under the term 'recapitulation'. He distinguishes the presentation of information directed at knowledge from that of data directed at the accumulation of information into three categories of storytelling: 'instructional' (real-life exchange of experience as a survival method in pre-history – literal), 'metaphorical' (narrative exchange or experience which functions with the 'like me' recognition of similarity through empathetic recognition – symbolic) of and 'recapitulative' (the intentional distancing from emotional reality through self-

conscious awareness – abstract), the third of which is nonrepresentational. And it is this last category that interest us here for it addresses the 'change in experience' which today constitutes our memory and perception, the virtual and the real, the actualized and the lived.

The play within the play compels the self-conscious recognition of the self-similar, not the 'like me' reflection of parable but the 'actuated me' of recapitulation. Benjamin writes: 'The so-called immortal works just flash briefly through every present time. Hamlet is one of the very fastest, the hardest to grasp.'[23] Rushkoff also points to Shakespeare; but also to Brecht, as one of the first moderns to realize the necessity of recapitulation with the technique which he developed and referred to as the 'alienation effect'.[24] With this Brecht attempts to draw the viewer into the play by rearranging the structure of the role oppositions of actor/audience. He effectively disabled the pause of the curtain's draw between acts, he pulled the audience into the entire production and thus created plays within plays: one of the story being told, the other of the action of telling it. Forcing the audience to be constantly aware both of the self-conscious position of the actors on stage and of their own self-conscious involvement with the issues, with the message, which the play itself performed. As Rushkoff writes, 'instead of looking within the context of the play on stage for the answers that Brecht's tragic characters could not find, we look outside the theatre into our very real world.'[25] Nonrepresentational, self-conscious awareness (recapitulation) allows for an immediate engagement with media, with the flow of images and information that are ever present, ever ready to flood over us. When there is no time for reflection, no space for reflexivity, we are forced to engage in action as actors and this form of recapitulated engagement could be seen as one of the few mechanisms helping us to regain our sense of agency, and further, such a constellation has the possibility to impart an experience of commonality and a sense of community. 'Why is recapitulation necessarily more advanced or better than literal or metaphorical understandings of our world? Because it is capable of re-presenting our chaotic cultural experience in a manner that allows us to relate to it. It gives us an insight into how nature works, and motivates us to become more fully conscious and self-determining.'[26]

In little more than a century, the processing of information streams has passed through the objectivity of reflection, through the subjectivity of the reflexive to a form of a-subjective recapitulation. Virilio also writes of recapitulation as a 'a pure phenomenon of speed, a phenomenon on the way to the realization of its absolute essence.'[27] What is interesting in Virilio is that we see not merely the presence of immediacy but that of the instantaneous. The instantiation of time within space, not the immediacy of space within time. And it is precisely this inversion, this apparent privileging of time over space which gives to his work the sense of the loss of human

agency in favour of the machinic agency of the masses. In Bergson, this idea of the 'instantaneous' is understood as a mechanistic, or reflex reaction whereby time is forcibly sectioned off as if its composite properties were similar to those of space. Whereas 'subjectivity', as described here in terms of the immediate, a-subjective, is 'affectivity' itself, externalized in image, and internalized as memory. Although these terms as they are used by Virilio and Bergson are the same, what they denote is exactly inverted. Understanding of these new forms of perception and structures of experience relies on philosophical distinctions regarding notions of time and space. Distinctions so primary that they led Bergson to advance the conclusion that the past should be referred to as that which 'is' while the present must be always understood as that which 'was.'[28]

Multiplicities of Immanence / Sites of Transcendence

In 1918 Benjamin writes that the 'task of coming philosophy can be conceived as the discovery or creation of that concept of knowledge which, by relating experience exclusively to the transcendental consciousness, makes not only mechanical but also religious experience logically possible', and he continues: 'with a new concept of knowledge, therefore, not only the concept of experience but also that of freedom will undergo a decisive transformation.'[29]

In part X of 'Some Motifs in Baudelaire' Benjamin, like Proust summoning time, brings forward Bergson's concept of time lived. He suggests that Bergson's *durée* is essentially a-historical; that it functions to isolate man from history, and from ritual. While we see this interpretation as an incomplete assessment of Bergson's metaphysics, the position he draws remains relevant. Benjamin's reading suggests duration as absolute presence, presence without the structural trajectory of memory. He recounts Max Horkheimer's critique of Bergson as the metaphysician who suppresses death. And Benjamin continues that *durée* 'from which death is eliminated has the miserable endlessness of a scroll. Tradition is excluded from it. It is the quintessence of a passing moment that struts about in the borrowed garb of experience. The *Spleen*, on the other hand exposes the passing moment in all its nakedness.'[30] The pure presence of time is understood here not as a condition to be valued as pure experience of the present, but as an eradication of experience, an annihilation of being. And in this, though he allows for the poetic surrender of Proust to this 'new structure of experience', he maintains the quality of transcendence in Baudelaire.

Proust also writes that time is peculiarly chopped up in Baudelaire; similarly Benjamin suggests, 'they are days of recollection, not marked by any experience (they) stand out from time.'[31] As such, they are days of waiting, of passing moments

standing as segments, they can only occupy space: the space of the day awaiting transcendence. This could not be more incompatible with Bergson's philosophy of immanence, his continuous (virtual) multiplicities. Benjamin's understanding of days which cannot be lived, but only thought, in the Bergsonian sense becomes days which cannot be thought but only lived. With Deleuze, *Bergsonism* is fully brought into lived experience, into a multiplicity of planes of immanence: the radical immanence of the process of perpetual becoming.[32] The 'embodied intensity – a process of approaching what we are, that is to say reducing oneself to the naked bone of one's speed of rememoration, one's capacity for perception, one's empathy for and impact on others.'[33] For Bergson the most common error of philosophy is that it confuses matters of degrees with matters of kind: domains of space (fundamentally homogeneous, quantitative and extensive) with those of time (essentially heterogeneous, qualitative and intensive). Space as extrinsic and mediated (perception) and time as intrinsic and immediate (memory). He understands movement (time) as the fundamental principle of life, motion as the essence of existence, continuity and heterogeneity as the two fundamental characteristics of duration. *Durée* is always seen as the process of continual changes in kind, not in degrees, it is *transition* in its purist form. The activity of transcendence, which always alludes to the spatial domain of experience in terms of a passage from one realm (the unperfected of the lived, the body) to the next (the perfected of the absolute, the spirit) thus establishes itself in a domain which can only admit to differences of degrees when in fact, the discussion must revolve on distinctions in kind.[34] And even then, when it does address time, it poses itself within the logic of linear time as that which can be somehow apprehended (further compounded by the mechanical ability of the cinematic freezing of movement, thus constructing the illusion of sequential and spatial delineation). Immanence, on the other hand, is understood as the simultaneous unfolding of multiplicities both physical and spiritual, both matter and memory at once; it cannot be apprehended but only approximated in movement, it can never be fixed, for motion itself is molecular. Thus, we find one of the basic rules of Bergsonian logic – all problems related to subject and object must be stated in terms of time rather than space.[35]

Perhaps the distance which separates the modern interpretation of Bergson from contemporary interpretation is precisely this: the search for transcendent states of being, over and against the immanence of the subject embodying the process of becoming; the need for reflection over and against the necessity of recapitulation; and the confusion of domains of space with those of the experience of time. And, thus, the dilemma of architects and planners who, despite their rhetoric on 'flexibility' and 'spaces of flow', are equivocally addressing problems of heterogeneous flow with incompatible answers in terms of homogeneous spatial fixity.

An extended version of this chapter has appeared under the title 'The Past which Is: The Present that Was Benjamin and the Bergson Trajectory' in: *Cities in Transition*, ed. D. Hauptmann (Rotterdam: 010 Publishers, 2001).

Notes

1 Bergson, *Matter and Memory*, 143.
2 Walter Benjamin, 'Some Motifs in Baudelaire' in *Charles Baudelaire, a lyric poet in the era of high capitalism* (London: Verso, 1997). First published in English as 'On Some Motifs in Baudelaire', in *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken, 1968). The original essay was written in 1939 in response to a critique by Theodor Adorno on 'The Paris of the Second Empire in Baudelaire' completed the previous year. [If this is not the edition you are working from, you needn't give the full bibliographic details? I assume you are working from the Fontana ed. listed below and in the bibliography.]
3 Ibid.
4 Benjamin, 'Some Motifs in Baudelaire', 111.
5 Marcel Proust, *Remembrance of Things Past*, *Vol. I: Swan's Way: Within a Budding Grove*, trans. C. K. Scott Moncrieff, and Terence Kilmartin (New York: Random House Inc., 1982).
6 Ibid., 47.
7 Benjamin, 'Some Motifs in Baudelaire', 112. (Citing: Marcel Proust, A la recherche du temps perdu, vol. I: Du Côté de Chez Swann, 1917, 69).
8 Benjamin, 'Some Motifs in Baudelaire', 112.
   While not developed here it is worth noting that Benjamin's work on Kafka is even more specific with respect to this breach between progress and tradition. His oftcited critique of Klee's 'Angelus Novus', which I read as incorporating his critique of Bergson, allows us to imagine the angel's face not turned only to the past but also to the future.
9 Benjamin, 'Some Motifs in Baudelaire', 111.
10 Benjamin develops this in section II of 'Some Motifs in Baudelaire'.
    Benjamin reads from: Henri Bergson, *Matière et Mémoire* and *Essai sur la relation du corps à l'esprit*, Paris, 1933.
11 Benjamin reads from Sigmund Freud, *Jenseits des Lustprinzips* (Vienna, 1923).
12 Benjamin, 'Some Motifs in Baudelaire', 117. See section IV.
13 Ibid.
14 Ibid., 119.
15 Ibid., 122.
16 Bergson, *Matter and Memory*, 35.
17 Charles Baudelaire, *Paris Spleen*, trans. Luise Varèse (New York: New Directions Books, 1970 [1869]), 3.
18 Benjamin, 'Some Motifs in Baudelaire', 116.
19 Ibid., 132.
20 Bergson, *Matter and Memory*, 57.
21 Ibid., 32.
22 Benjamin, 'Some Motifs in Baudelaire', 154.
23 Walter Benjamin, *Selected writings, vol. II 1927–1934* (Cambridge, MA and London: Belknap Press, 1999 [1929]), 285.
24 Benjamin writes on Brecht in his 'What is Epic Theater?,' in *Illuminations,* ed. Hannah Arendt, trans. Harry Zohn (London: Fontana Press, 1992), 144–151.
25 Douglas Rushkoff, *Children of Chaos: Surviving the End of the World as We Know It* (London: Flamingo, 1997), 224.
26 Ibid., 228.
27 Paul Virilio, *The Aesthetics of Disappearance*, trans. Philip Beitchman (New York: Semiotext(e), 1991 [1980]), 44.
28 On this point, see: Bergson, *Matter and Memory*, Chapter 1. And Deleuze, *Bergsonism*, Chapter 3, 'On the Survival of Images. Matter and Mind'.

29   Walter Benjamin, *Selected writings, vol. I 1913–1926* (Cambridge, MA and London: Belknap Press, 1996), 105. From the essay 'On the Program of the Coming Philosophy,' [1918] (pp. 100–110). This essay contains primarily a neoKantian critique of transformations regarding the domains of knowledge and experience.

30   Benjamin, 'Some Motifs in Baudelaire', 144–45.

31   Ibid., 139.

32   Deleuze, *Bergsonism*.

33   Rosi Braidotti, 'Meta(l)morphosis', in *Theory, Culture & Society* 14 no. 2 (1997): 67–90.

34   These distinctions of matters of degree and kind are first developed in Bergson, *Time and Free Will*. See Chapter II, 'The Multiplicity of Conscious States: The Idea of Duration.'

35   Bergson, *Matter and Memory*, 71. See note 5 in the Introduction to this volume.

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5 From Biopolitics to Noopolitics

What should we do with our brain? Is not a question reserved for philosophers, for scientists, for politicians – it is a question for everyone. … *The guiding question of the present effort should thus be formulated: What should we do so that consciousness of the brain does not purely and simply coincide with the spirit of capitalism?* (Malibou, *What Should We Do With Our Brain?*)[1]

This chapter begins with the basic premise that, in a world increasingly populated by technologies of information and communication, the analysis of biopolitics must be expanded to include thinking on noopolitics. While the former acts on body, or populations of bodies, and inscribes habits and practices specific to life (*bios*), the latter operates on mind (*nous*), on general intellect and mental disposition. Here the concept of noopolitics is broadly posited as a power exerted over the life of the mind, including perception, attention, and memory. In this last chapter questions are posited and ideas put forward pertaining to the conditions through which world, body, brain, and mind are coupled, influenced by, and inflected through contemporary forms of material and immaterial production and processes such as those found in our current communication and information age.

The Foucauldian discourse on biopolitics and power has for decades been considered a cornerstone of theories (throughout numerous disciplines including architecture) that address the formation of society and culture in relation to economy and politics in all their permutations. It is important to retain the distinctions that have been made between biopolitics and biopower; primarily the distinction between the integration and stratifications of forces by institutions and various agents, organizations, and the constellations of power, singular or multiple, as a set of relations of forces acting on forces outside what some might refer to as the body-politic itself. Equally relevant is to recall that these so-called institutions of organization do not solely generate various sources of power, but in fact themselves stem from these relations of power.[2] Furthermore, as readers of the work of Foucault will recognize, underpinning his entire discourse is the concern with the power to exercise freedom and the creative power of resistance. Which, to our mind, also remains as a central concern to what we are here discussing under

the terms of biopolitics/biopower and the subsequent forms that the production of subjectivities (considered both positively and negatively) take within noopolitical/ noopower frameworks of what have become highly distributed networks of forces and organization.

Perhaps it should be pointed out that the prefix bio with respects to politics or power is not intended to simply be supplanted by the prefix noo. Nor can the mind-body problematic be so easily collapsed. According to Fredric Jameson the mind-body problematic – which he refers to as the raw nerve of metaphysics – runs through the dualisms of Cartesian and Spinozan philosophy 'all the way down to base and superstructure if not the mechanical-materialist mirage of the cognitive brain itself.'[3] Issues raised in this chapter are considered to be less ideologically related to the (Marxist) subject/labour paradigm, or the subjugation of populations through integration and capture within the order of reproduction, and more dynamically related to modalities of power as a relation between 'forces acting on forces' through integration and differentiation, which within an order of invention create sublime and complex conditions of control and resistance. Maurizio Lazzarato has developed the importance of these distinctions in his celebrated essay 'Life and the Living in the Societies of Control.' In this work, he outlines the continuation of disciplinary societies (Foucault) into societies of control (Deleuze). Following Gabriel Tarde, Lazzarato argues that media provide the conditions for 'the action at a distance of one mind on another, through the brain's power to affect and become affected, (which) is mediated and enriched by technology.'[4] Identifying the importance of memory within action at a distance, he draws a distinction between 'life as memory … [and] life as a set of biological characteristics'.[5] In other words, between the bio of biopower and bio as it is held in memory; Lazzarato thus turns to the term 'noo-politics' in order to distinguish the latter. Hence, the relevance of noopolitics in contemporary discourse and practice is integrally connected with memory and mind and to theorizing the relation between the forces and forms of communication. Networks of information and communication generate new logics of representation that are more topological than analogical. This action at a distance can be seen as an apparatus of noopolitics which emerged at the end of the nineteenth century with the advent of mass media in the form of something that today is seemingly innocuous. With the aid of the telegraph, it was the newspaper that delivered the first spatio-temporal shock to the masses. Deleuze, in 'Postscript on the Societies of Control', also argues that the dispositifs of power and control that once operated primarily on the body (read pace Foucault) now operate on the mind through technologies of communication. With this we are no longer within the closed spaces of control outlined by geographic or political boundaries (sovereignties as such) of individuals or populations; but in the open spaces of public opinion, of multiple affiliations and dispositions dispersed across the globe. We witness not only the control of

territories, but new forms of deterritorializations (Deleuze/Guattari), in other words, intensive modulations and temporal reconfigurations are both superimposed upon and subordinate extensive modalities of space. Or, as Lazzarato expresses it, 'we could say that noo-politics commands and reorganizes the other power relations because it operates at the most deterritorialized level (the virtuality of the action between brains).'[6]

Architecture and urbanism inhabit the same spaces and temporalities that characterize these new modes and relations; their presence also possesses the potential to bend and contort the very systems in which they operate. Architecture too often tends to be considered as autonomous, disengaged, and distanced from life as some form of hermetic (design-centric) endeavour. Quite the opposite is true – architectural technologies are embedded in the interwoven fabric of social, political, economic, psychological, historical, and spiritual relations of a community of differences and heterogeneity. Architecture has created its own set of dispositifs that provide for the smooth realization of new and diverse networks into planned conditions of the built environment. Put differently, architectural imaginations produce practices that allow for the exploration of remote territories, like the paranormal, non-linear, psychic, and insensible, which pulsate beyond the reach of the formulaic methodologies of the logics of computational programs. Equally, the concept of the virtual has become increasingly important to the architecture and urban design discourse. In fact, architectural and urban processes, procedures, and products commingle to form complex systems of recurrent and recursive circuits, which, in the end, help produce novel forms of networks that empower the imagination and constitute the cultural landscape with new objects and subject relations.

The above briefly indicates the general concerns that motivated the discussion on biopolitics and noopolitics in the concluding chapter. The intention, equally, is not to remain primarily in the domain of philosophy and theory as these interests also lean heavily on thinking new relations between culture and the brain. By this the brain is not understood merely as the privileged metaphor for mind, consciousness, or cognition; but the brain as examined in contemporary neurosciences. What requires exploration is the manner in which the brain is transformed through cultural influences, and conversely, how the emerging knowledge of the brain informs both the limits and possibilities of our interaction with and effect upon our world. Our contemporary moment requires us to develop a better theoretical understanding of the emerging conditions that generate new continents of research and elicit forms of power and relations of power within the context of new economic, political, social, aesthetic, and cultural contingencies; a search that is also paralleled by many scientists who, in various manners, conduct research into our cognitive

capacities in general, and the brain (whether psychological, physiological, biological, or neurological) specifically. Further, in addressing recent advents in architecture the relation between culture and the brain cannot be ignored, thus recent ideas emanating from neuroscience must be included in the development of any understanding not merely of what architecture is, but how it acts.[7] The chapter includes five sections representing concepts and ideas that resonate in architecture, theory, philosophy, and neuroscience simultaneously.

Plasticity and Potentiality

Approached from a theoretical perspective, the concept of plasticity bears on questions pertaining to the conditions of the changing cultural milieu, what might be called cultural plasticity, which through its direct or indirect actions affect memory, perception, experience, and thinking. Further, these transformations can be directly related to technological developments as well. Of course, writings on such matters have echoed through discourses concerned with art and media and their effective relation to socio-cultural conditions and conditionings, whether considered as a virtual or an actual real. Developments in neuroplasticity, which sit within scientific research primarily within the fields of experimental and physiological psychology, cognitive psychology, cognitive science and cognitive neuroscience, have now been extended to the cultural realm. When coupled with technological developments on the one hand, and ontogenetically driven cognitive strategies on the other, plasticity and its effects greatly impact our modes of understanding our life-world.

Henri Bergson argued that people are inclined to project their psychic or mental states into spatial form; and in so doing, not only are these mental states themselves transformed, but simultaneously they return to generate alternative and new forms of experience when reflected back into consciousness. We might easily recall Walter Benjamin's now canonical claim that 'the mode of human sense perception changes with humanity's entire mode of existence', and the vehicle of such change is determined by 'historical circumstances' (by which he was referring to the technology of film).[8] A more current example can be seen in Fredric Jameson, who puts forward a similar perspective – specifically with respect to the architecture of the Bonaventure Hotel, Los Angeles – suggesting that built space is mutating into something that people do not yet possess the perceptual faculties to understand.[9] In other words, as architecture changes, so too must the mind that must fathom it.

As these examples portray, the plasticity at play in experience and perception (along a sensation-affect and memory-attention axis) can be extrapolated in terms of both *bios* and *nous.* Thus, the notion of plasticity as it generally indicates the

idea of mutability, transformation, and the inherent potential for change (whether productive or prohibitive) within the spheres of both real and imagined states and processes within beings. For some, this can be seen as a theoretical notion of (pluri)potentiality[10] as a means to elucidate a diagrammatic concept applied to the process of social and cultural evolution, especially as it creates new forms in the built environment or elicits new cultural niches in various and nuanced ways (cultural plasticity). For others, this is seen as a property of the brain (neuroplasticity), providing for a greater understanding of how contemporary science posits human evolutionary capacities.

Potentiality is also used as a notion within discourse on capitalist organizations, tertiary economies, and the public sphere of sociopolitical practices. Paolo Virno suggests this as nothing less than the arena of struggle in which human nature itself is at stake. Virno identifies the differential traits of the species (Homo sapiens) in such things as 'verbal thought, the transinidividual character of mind, neoteny, and the lack of specialized instincts' and will situate these 'species-specific prerogatives' within a complex meta-history of biology, power, and temporal contingents.[11] Natural history, for Virno, takes on complex form in relation to sociopolitical configurations (experienced facts) and biological invariants (possibility of experience); with this he utilizes the diagram as a mechanism to identify this complex relation between what he refers to as the 'just now' (human nature) and 'always already' (biolinguistic capitalism): 'I call natural-historical diagrams the sociopolitical states of affairs that display, in changing and rival forms, some salient features of anthropogenesis. The diagram is a sign that imitates the object to which it refers, meticulously reproducing its structure and the relation between its parts.'[12] Biolinguistic capitalism is here considered as a key element in the global movement and although Virno does not name it as such, we consider this as a specialized reading on noopolitics as it posits a central concern regarding the organization of intelligence and the mutation of intellect.

In respect to potentiality, the concept of *dynamis* is raised. Virno addresses this as a 'power' evincing the ability of change, and identifies the dynamis as a non-presence (absence of presence). In Virno this is related to the 'not-now' of an eternal presence. The eternal, as that which displays a high degree of invariance, is resistant to social and cultural change. It is therefore the faculty of language that modulates the power (*in potentia*) of the non-actual, undefined and indeterminate. Virno further roots potentiality (the indefinite) in neoteny, the condition of a non-specialized organism that characterizes man. This idea of a continuous, uninterrupted learning process is also found in the Deleuzian distinction between societies of discipline and control.[13] Whereas the former indicates a progression, a passage from one state to the next (from the home, to the school, to the factory, and so forth) the latter

indicates recursive movements back and forth between these various modalities of training. Virno takes another step, however, and it is a step particularly relevant to architecture thinking; whereby he argues that the non-specialized organism is also one that is perpetually 'out-of-place.' The 'human animal', in this account, has no natural environment (no niche) in which he might insert himself 'with innate expertise once and for all.' In other words, he is an organism without organization. Thus 'our "essential nature" is characterized … by the absence of a determinate environment, and therefore by and enduring disorientation.'[14] Virno does not speak of the built environment per se, but it remains possible to interpret his argument in relation to the indeterminate, the open-ended and (seemingly infinitely) modifiable conditions of the cultural environment in which architecture establishes its own diagrams and maps of possible worlds that, in his words, 'portray the absence of a univocal environment'. In fact, we might suggest that one of the potentials of architecture could here be posited as the power to help make the human animal less indeterminate in this regard, to sculpt through architectural languages the creation of a niche that acts on the neoteny of the human species, offering 'plausible diagrams' of an invariant human nature. Neotony is also related to neuroplasticity as it opens up the possibility for man to live in multiple domains that are in a state of constant flux; a multiplicity of natural as well as cultural niches, which architecture plays a role in forming. Virno succinctly takes on the traditional nature/culture divide with respect both to biology and history while equally regarding their sociopolitical interface with modes of capital production.

Giorgio Agamben has made the comparison between an architect and a child, arguing that although the architect has the potential to build (as the poet has the potential to write), he or she also possesses the power to decide *not* to make a work but instead to maintain that potential in an unused state. The child, on the other hand, does not yet possess such knowledge (praxis), as he or she possesses a 'generic form of potentiality'. Thus, the child must 'suffer an alteration (a becoming other) through learning.'[15] And, these alterations can be seen as fundamental to the pluripotential of the nervous system and its administration within societies of control. There can be no doubt that language and culture are powerful immaterial forces in sculpting the brain. A different reading on potentiality through Agamben can be found in the work of Patricia Reed. In 'The Politics of "I Can"'[16] Reed dismantles the longstanding dialectic relation between potential and action – a necessary condition if we are to think noopolitics in relation to action at a distance (Lazzarato) as opposed to an actualization, or rather an action manifested in discrete (contiguous rather than continuous) form. It is within potentiality that Agamben finds the basis of life itself. 'Lying in this zone of indistinction where a coincidence of two, seemingly opposed systems – the capacity to act and the capacity not to act – meet and produce an unknown, unnamed topology.'[17] In other words, we cannot

neglect the importance of 'in-action' in Agamben. Those familiar with his work will recognize this idea as taken from his reading of Aristotle's theory of dynamis. 'The zones of indistinction exemplified in the existence of potentiality shift away from the dichotomous disposition of the term in its potential/actual configuration, and point to what Agamben calls "di-polarities," not as substantial but as tensional.'[18]

This idea of indistinctness ('the in-between state of potentiality') found in the 'I can' of Agamben can be thought further with respect to its ethical dimension with the concept of political equality developed in Jacques Rancière.[19] We are dealing here with the sheer contingency of any sociopolitical system as that which lack natural law or order. Thus, a social order must be produced and this is what Rancière refers to as 'the police', a term that, according to Reed, denotes 'a particular sensible ordering of bodies, roles, places, identities, and functions'.[20] The police, according to Rancière, allocate ways of 'doing', of 'being' and 'saying'; it defines an order of the 'visible and sayable'. We are here once again reminded of Foucault's difficult and enigmatic relation (or non-relation) between the articulable and the visible (between strata of knowledge functioning in relations of power).[21] Or as Deleuze puts it in *Foucault*, knowledge is defined by 'the combinations of visible and articulable that are unique to each historical formulation'; and as such, 'knowledge is a practical assemblage, a mechanism of statements and visibilities.'[22] In Rancière, politics does not derive from the governing of life through rules and regulations, but is opposed to these very structures. Politics 'happens' as a relational process, its enactment of statements and visibilities demarks the horizon where, one might say, act and potency (action and potential) converge and simultaneously disperse, disseminate, and disappear.

In speaking of potentiality in relation to time, the present, or, as with the above, the 'absence of presence', Boris Groys, in 'Comrades of Time', offers another view.[23] Groys puts forward an argument on the meaning of the term 'contemporary' in respect to time-based art (primarily video and cinema). If modernity understood time as productive (stable in respect to a past-future axis) our contemporary time would be seen through these filters as unproductive (without historical perspective) 'wasted time'. Looking at this otherwise, as 'excess time', Groys offers another perspective. If excess time is seen as suspended and delayed, in fact, the postponement of time, 'it is precisely because such a wasted, suspended, non-historical time cannot be accumulated and absorbed by its product that it can be repeated'.[24] Touching on Nietzsche's eternal return and Bataille's excess as modernity's (repressive) ideology of progress (both of which are constituted in repetition), Groys points as well to Deleuze's 'literal repetition' as being 'radically artificial' as a means of 'initiating a rupture in the continuity of life by creating a non-historical excess of time through art'.[25] But he intends to propose a new way of thinking the term contemporary so

as to be 'with time' rather than 'in time', suggesting that such art 'ceases to be present, to create the effect of presence – but it also ceases to be "in the present," understood as the uniqueness of the here-and-now. Rather, art begins to document a repetitive, indefinite, maybe even infinite present – a present that was always, already there, and can be prolonged into the indefinite future.'[26] He also points to the advent of mass communication networks (Facebook, YouTube, Twitter, and so forth) as means of distribution through which contemporary art has today become a mass-cultural practice. Of course, Benjamin posed this similarly with the advent of the media of 'the daily press' in which 'at any moment the reader is ready to turn into the writer.'[27] However, the point here does not hinge on earlier critiques on the status of the author, but on a more contemporary distinction, which Groys reconfigures under the classical terms of *vita activa* (the predilection toward speed and movement as found in the modernist mentality precisely during the conception of film) and *vita contemplativa* (with its roots in ancient philosophy, typically understood as a passive spectatorship). Arguing that if there is still a society of spectacle today (Debord), 'then it seems to be a spectacle without spectators'.[28] The notion *vita contemplativa* here is situated in relation to the spectator who is permanently active. Potentiality here lies in temporal formulations (as location as such is inaccessible) of nomadic movement, which with Virno indicates the absence of univocal actions in the presence of a perpetual stream of stimuli. Time-based art, in this sense, eradicates the distance between the active and the contemplative (time-based art transforms into art-based time). This collapse of what we here might refer to respectively as the *bios* and *nous*, offers an example of how cultural plasticity operates by creating new modes of intensive temporalities.

From a neuroscientific perspective, the brain has its potentiality embedded into its neuroplasticity and its static living appendages, its neurons, dendrites and synaptic entities as well as its dynamic and oscillatory potentials. As we will see, these are flexible entities and are sculpted and complexified by the world we interact with. This is done in the context of a genetically prescribed unfolding narrative responding to events both inside and outside of our intellectual grasp. Put simply, the neurobiologist Marcus Jacobson defined neural plasticity as a process through which the nervous system adjusts to changes in the internal and external milieus.[29] Central to this discussion is Steven Quartz and Terrance Sejnowski's 'The Neural Basis of Cognitive Development: A Constructivist Manifesto'.[30] The paper provides an account of neural constructivism in terms of the dynamic interaction between neural growth mechanisms and environmentally derived neural activity. Quartz and Sejnowski demonstrate how this relationship between neural development and environment provides for a dynamic and flexible form of learning identified as 'constructive learning.' Their constructivist model posits progressive growth against that of the selectionist model (selective induction) which emphasizes regressive mechanisms.

By this they offer a way of understanding the complexity and interactivity of the brain as it becomes dependent on the environment as something other than what has been preconditioned or prescriptive (Edelman) by its neurobiological architecture. 'Our view is that the human brain's development is a prolonged period in which environmental structure shapes the brain activity that in turn builds the circuits underlying thought. In place of pre-wired modules, patterned activity builds up increasingly complex circuits, with areas staging their development.'[31] For Quartz and Sejnowski, the environment is understood as active, dynamic and non-stationary. They suggest that while 'most natural systems are only confronted with ecological change, human cognition requires highly flexible and adaptive representations to accommodate both cultural and technological innovations.'[32]

Scott Kelso, in 'Metastable Mind' offers a reading from the perspective of brain science developed through his significant work on coordination dynamics.[33] 'Coordination dynamics deals specifically with informationally coupled, self-organizing systems, where information is meaningful and specific to coordination tasks and functions: functional information.'[34] Kelso posits that, in disciplines as diverse as physics and philosophy, it appears that thinking sits most comfortably in dualisms and binary (dialectic) oppositions. These contrary states are easily grasped by the structural logics contained in most epistemological systems. Much harder to grasp is the notion that 'contraries are complementary'. Kelso puts forward the model of metastability as, among other things, a new conception of brain organization; one that reduces hierarchical couplings between 'the parts of a complex system while allowing them to retain their individuality'.[35] A theory that allows for both local ('segregative') and global ('interactive') processes to coexist as opposed to conflict. It is not possible to recount the scientific basis and nuances of his specific argument here; however, it is important to note that in many ways this argument accounts for an understanding of brain functions in a manner that contributes much to Gregory Bateson's account of a 'difference that makes a difference'. Particularly relevant in this regard would be the manner in which Kelso discusses time (dwell time and phase dynamics) in terms of persistence, distribution, and destabilizations that intricately 'switch', or in the terms offered above, we might say modulate. As Kelso has written elsewhere, metastable coordination dynamics 'also rationalizes William James's beautiful metaphor of the stream of consciousness as the flight of a bird whose life journey consists of "perchings" and "flights". Both tendencies appear to be crucial: the former to summon and create thoughts, the latter to release individual brain areas to participate in other acts of cognition, emotion and action.'[36]

Epigenetic Reconfigurations

If plasticity can be understood as a state of having multiple possibilities, epigenesis is here understood in broad terms as the process through which select possibilities are made stable within a given context. Put otherwise, if plasticity is generally understood as an underlying property of the brain, epigenesis constitutes the process through which this property is reconfigured. Following, for instance, Gerald Edelman's neural Darwinist approach, the brain that one is born with, with its neural plastic potential, may become sculpted through a process of 'neuronal group selection' by existing environmental contingencies.[37] Parallel to this, yet from a different perspective, as we saw above with Quartz and Sejnowski, is the neural constructivist approach. Both of which delineate the ways and means by which neural biological matter might be organized through epigenesis by the manmade milieu (meaning nature is open, possessing varied biological propensities). In other words, if the previous section on plasticity concerned the conditions of the brain and mind at birth as a reservoir of potential; this section addresses a becoming brain that can through the forces of epigenesis be sculpted by the world. Here we deliberate on a world transformed from one of a natural kind to that of a cultural kind. Of course, culture is continuously transforming; and both philosophy and architecture mirror and engender many of these changes.

In thinking on the effects of the environment on the brain, Bruce Wexler offers a scientific perspective that is equally accessible from a theoretical outlook.[38] In 'Shaping the Environments that Shape our Brains: A Long Term Perspective', Wexler suggests that sensory input provided by the environment (cultural and biological) generate complex ensembles of systems and functions that form brain and human activity. 'Psychological processes and cognitive operations like perception, memory and thinking are properties of these ensembles and functional systems.'[39] Information, how it is processed and stored in culture through dynamic distributions of artefacts and institutions, takes on an importance equal to, if not greater than (at least in terms of rapidity, incrementality, and variability) biological processes stored in stable sequences (such as DNA molecules). Neuroplasticity, accordingly, provides a key function with respect to the evolution of the human brain both within an individual lifetime and during the evolution of the species over time. The potential of neuroplasticity (and the neurochemical mechanisms that support it) also indicates the adaptive function of neurons to supplement selective processes (for instance the rerouting of visual with auditory input in the auditory cortex). Taken to an extreme, in aesthetic theory, this phenomenon is related to what is referred to as synaesthesia. Wexler will, however, focus more closely on the human rearing environment in order to make his claims about the significance of cultural environments, in other words, the influences of a more localized environment on the evolution of human behaviour

as man incorporates, transforms, and extends his modalities of thinking and doing. Thus, within a neuroscientific perspective we should grasp that 'environment-induced neural activation shapes brain development to be consistent with the largely human-made environment.'[40] Here we are speaking directly of the matter that makes up the human sociocultural environment – music, architecture, art, media, and language, as well as political, social, and cultural institutions.

In addressing the emergence of cities, Wexler identifies 'population density, increased leisure, role specialization and increasingly complex social organization'[41] as critical factors that fundamentally altered relationships between people and the physical environment (significantly altering the 'rearing environment' so crucial to the evolutionary capacity of the brain). He also points to the powerful shift that took place due to the advent of symbolic systems, which extended human memory and broke down the barrier between internal states and external manifestations of those states. Foucault, too, had pointed to the moment where life was introduced into history as the moment that economy, originally understood as the governing of families, and politics, or the governing of peoples, became intertwined, forming new dispositifs of bio-power.[42] And although he does not speak on this directly, Wexler also points to commerce as an influence that allows new forms of highly stable communities to emerge. In urban studies, for instance, against the long-held perspective that finds cities emerging out of the shift from hunter-gatherer communities to the cultivation of agrarian societies (V. Gordon Childe) – leading to a Marxist archaeology approach arguing the impact of (agricultural) surplus value – there are also those who find the development of nomadic migration and trade routes to be the critical factor in the formation of cities (Jane Jacobs). In other words, cities do not emerge only as an agglomeration of their natural surroundings, but are a product of networks of complex resources and activities by which we understand a dynamics of mobility as highly relevant to the generation of constellations of exchange (economic, social, cultural, and political). Later developments (whether artisanal, concerned with manufacturing, industrial, or post-industrial) only served to establish cities as more intensified seats of material and immaterial production further extending the complexities of these networks of organization. Of course, this schematic sketch does nothing to explain the more significant relationship between the formation of cities and formulation of societies. But, it is possible that there remain insights into these histories as they relate to the evolutions (and revolutions) of urban models through the concept of cognitive architecture.

Questions pertaining to the brain – its function, structure, relation to cognition and, of course, mind – are as old as philosophy itself. And if epigenetics can be broadly understood as the unfolding development in an organism, we also take this to indicate the unfolding of developments (specific histories) in thinking about

matters of brain, and as situated within certain philosophical, psychological, and neuroscientific perspectives on such things as cognition, mind, intellect, and self.

For instance, John Protevi engages intricately with Wexler's work. In 'Deleuze and Wexler: Thinking Brain, Body, and Affect in Social Context', Protevi provides a reading of Wexler in relation to the '4EA' approach (embodied, embedded, enactive, extended, affective).[43] Protevi's focus is on three areas or conceptual underpinnings, which we find particularly relevant to the concerns of this chapter: 'an ontology of distributed and differential systems' as found in the notion of the virtual; the idea of 'multiple subjectification practices', as opposed to an abstracted subject ('the' subject) as typically addressed in embodied mind theories; and a recasting of the notion of affect into a thematizing of 'political affect.'[44] In his work, the three are interwoven and can be read as a 'radical relationality' – a term Protevi utilizes in describing Wexler's work.

From a different perspective, Charles Wolfe points to the 'social turn' in theories of cognition. In 'From Spinoza to the Socialist Cortex: Steps Toward the Social Brain', Wolfe traces a specific philosophical history of the brain that runs seamlessly through a network of relations from Spinoza and Marx to early Soviet neuropsychologists Lev Vygotsky and Alexander Luria, to the more recent European philosophies of Deleuze, Virno, and Toni Negri.[45] This trajectory situates thinking regarding the brain within its sociopolitical framework and naturalistic aspects of development (forming a unique materialist perspective), which Wolfe describes as the 'Spinozaist Brain'. He briefly addresses the idea of an individual or individuated subject, but his focus is not the importance of inter-relationality between persons in a collective or 'common' environment. Communication, in this account, is not merely the transferring of information, but what would be understood as the affective dimension of communication. Throughout this reading Wolfe leads us to understand that the social (sociability) qualities of our mental being are considered a fundamental property of the brain. 'Exactly as a contemporary practitioner of "social" or "affective" neuroscience might have it, the passions are not properties of an essential human nature, or an isolated individual, but rather of a relational spectrum between a plurality of individuals. Instead of Descartes' cogito ergo sum, Spinoza says homo cogitat, "man thinks": there is no foundational self, but always a process – a network.'[46] This is reminiscent of Bergson's formulation that 'consciousness is' as set against the Husserlian formulation that consciousness is always 'consciousness of' (something). In other words, as Spinoza does not require an internal correlate (in the form of 'I') neither does Bergson require an external correlate (in the form of a 'thing'). These are externalist and relational concepts, in the sense discussed here, they form (epigenetic) reconfigurations.

The question we are dealing with here all, in one manner or another, ask or provide for a formulation of self. Addressing architecture in relation to ontologically driven formations of selfhood: 'architecture as an object (objectum) that materially opposes us, us as beings that are subjects – plastic, mimetic beings that are sub-jected to the structures imposed by architecture.'[47] Two contrasting models that have served to configure our possible experience of architecture have been sketched by Lukas Ebensperger, Suparna Choudhury, and Jan Slaby in their work on cognitive architecture. The first being the imposition of a geometric idealization of space that affords all objects a location (measurable and fixed). In this account, location becomes an external property that can be defined by and projected onto a system of coordinates and space thus provides a geometric-mathematical predetermination of ontology. The second, viewed from a phenomenological perspective, develops notions of space and time as directly derived from experience. In this account, space is internalized and transcribed with quotidian practices. The point, however, is not to map well-known perspectives on theories of architecture with the tools of neuroscience but to examine how such empirical fascinations and ontologically driven matters contribute to our experience (not merely our understanding) of architecture as it relates to the formulation of selfhood. A question that remains central to many urban theorists as well. Architecture 'shapes our existential-space, out of which we formulate our self-understanding'.[48] This could be said more directly: architecture and the physical environment shape our brains.

Importantly, Ebensperger, Choudhury and Slaby also point to studies in architecture and design that lean heavily on principles of environmental behaviourism – empirical and psychological studies, they suggest, that have no need to for the sciences that study the brain. Thus, they posit the question, why does the brain matter? Although they do not develop this observation, we have noted it here as it points to an earlier interest (ca. 1970s) in architecture and urban research that sought to illicit so-called positive behaviours from people(s) as a legitimate domain of design practice. Social engineering (planning practices similar to those discussed in Lazzarato, Tarde, Foucault, and Lefebvre, among others), hegemonic exertions of what constituted a 'good society.' In relation to our concerns this can be seen as an example of a practice that sought to capture and reproduce (through biopolitical means) a homogeneous and well 'disciplined' society. However, the most insightful critique on architecture and urban practice launched by Ebensperger, Choudhury and Slaby warns that current discourses and practices adopting a 'neuroarchitecture' label tend to 'prioritize 'biologistic- and neuronally-reductionist descriptions' of subject/object ontologies.[49] Focusing on the ANFA (Academy of Neuroscience for Architecture), they suggest that there is danger in placing too much faith in neuroscience as a foundational approach to architecture as it validates the speculative claim that neuroscience has a privileged access to human nature.

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In other words, according to the authors, these (too facile) approaches somehow conflate selfhood and 'brainhood'. We, too, believe in remaining wary of disciplines that install a technoscientific (reifying and objectifying) or positivist outlook on the quest for a meaningful formulation of selfhood; which, the authors of 'Designing the Lifeworld' contend, remains at the core of every existentially relevant philosophy.

Administering Attention

Language and culture are powerful immaterial and material forces in the sculpting and administration of both experience and cognitive responses. Lazzarato identifies memory and attention as the key components in understanding how (noo)power exerts force in societies of control. Here we find that it is the incorporeal dimension of bodies that are now fixed in the crosshairs of the forces (acting on forces) of our contemporary life-world. We might also consider how institutions and organizations concerned with the exertion of power deploy means (in tertiary economies) to hype up selective nodes of information that accentuate administrative power over not only attention and memory, but also, with respect to cognitive capital, desire. Of course, there is also a well-instantiated practice that puts these theories to work; we are speaking naturally of what is currently referred to as the attention economy. Data driven algorithm design generates abstract machines, apparatus of a new enlightenment.[50] Commodities, now linked together as branded networks, form intricate arrangements and systems whose primary purpose is to intensify their desired quotient. The so-called global marketplace now generates powerful and complex networks of attention that further serve to define not only economic but, moreover, political and aesthetic regimes. We can no longer speak solely within the rubrics of immaterial labour, nor within that of the so-called general intellect (Marx).[51] Or, from the neuroscience perspective as Kelso describes: 'active, dynamic processes like "perceiving," "attending," "remembering," and "deciding," that are associated with the word thinking are not restricted to particular brain locations but rather emerge as patterns of interaction among widely distributed neural ensembles and in general between human beings and their worlds.'[52]

Discourse on the notion of attention is often framed within terms relating to the principle of motion/rest and time-space: dynamic processes, static states, properties, qualities, successions, simultaneities, hesitations, tendencies, intensities, potentials, propensities, etcetera. The importance of the relationality (perhaps 'radical relationality') such terms articulate with respect to spatiotemporal (or temporalspatial predicates and organizations should not be overestimated. Keller Easterling writes on disposition, as another highly nuanced term that unfolds a multiplicity of relations between the active form and inactive potential. Disposition,

she suggests, locates activity, not in movement, but in relationship or relative position, in other words, it is a relationship of potentials. This discourse implicates modes of change, and for purposes here we would also say that it acts through (differential) modulations of perception, habit, memory and attention. Noopolitics, Easterling suggests, can be found in 'interior virtual territory as well as exterior physical territory. For instance, ideation and habit of mind project scripts onto the urban sphere, and the interactions between these scripts and urban infrastructures gradually author the city.'[53] Carrying this discussion through the work of such thinkers as Gilbert Ryle, Bruno Latour and Gregory Bateson, Easterling writes: 'Ryle describes disposition as a latent or inherent property of both materials and intentions, Latour retools social science techniques to account for the ever-unfolding dispositional nature of sociotechnical networks. Bateson, perhaps most overtly landing in the noopolitical territory, posited the cybernetic model as a means to create equilibrium amid violent tensions in the mind, the group and the larger political scene.'[54] In Bateson, disposition is a behavioural property inherent in groups. Although we do not find a specific discussion on the concept of attention (as presented in this chapter) in Easterling, she speaks instead of a leaning-towards, or being drawn-to, of both active and inactive registers, or forms and forces within what she refers to as the contemporary 'scripting' of noopolitical organizations.

In 'Loose Coexistence: Technologies of Attention in the Age of the Post-Metropolis,' Elie During offers insights into conditions impacting forms of life and living in contemporary cities. He suggests that new technologies of information and communication have erupted into new and unprecedented regimes of attention, which in turn generate new forms of spatiotemporal organizations inseparable from those affecting contemporary urban life.[55] Of course, the 'post'-metropolis expands on early theories of the metropolis as found in the writings of such thinkers as Georg Simmel, Siegfried Kracauer, and Walter Benjamin, as well as figures such as Baudelaire's *flâneur*. During points to various themes that emerged due to the conditions of the early metropolis, such as shock, fragmentation, hyperstimulation.[56] During recognizes this as a pathology commonly attributed to those who dwell in large urban centres and likened often to sheer neurasthenia. He notes Simmel's correlation between 'hyperesthesia and latitude', resulting in some cases as a dulling of sensitive skills. No doubt that, today, we all have our own associative memories paralleling these early twentieth-century critiques. However, the focus of During's work does not linger in the past but turns to the mechanisms contemporary conditions trigger within a person's perceptive skills. As well as the developing of means with which to process the effect of such things on over-stimulation within a regime of attention and its necessary correlate, inattention.

Distraction here becomes the catchphrase for all the misgivings associated with technologies of information and communication – from broadcasting to telecommunications, internet interfaces and digital devices in all their major and minor keys. New forms of distributed attention (neither scattered nor diffused), 'better suits the new figure of the *flâneur* emerging from the context of ubiquitous technologies'.[57] Clearly, the spatiotemporal logic of these new environments, whether in the screen space of our personal computers or manoeuvring the city, needs to be thought on new terrain. During argues convincingly that discourses that overemphasize the nature of speed – immediacy of forces acting on mental states and perceptual awareness – have distorted concepts of coexistence and simultaneity, now an issue of some importance for both theories and practices concerned with spatial and temporal interconnectedness. On this account there is no such thing as instantaneous action at a distance, not, that is, for living, embodied subjects. That it is not only a sense of connectedness, that our hyper-networked era achieves, but equally produces specific forms of desynchronization and disconnection. Attention then becomes a matter of an individual's ability to organize their own dispersion. Notions such as split attention and distributed attention, rather than distraction, better estimate the 'polyphonic immersion' of the contemporary subject within the material and immaterial fabric and forces of coexistence within urban life and urban form.

Contemporary urban theories turn as equally on the concept of dynamic action as the idea of static form. In the work of Lisa Blackman and Jane Harbord we find explicit articulation on one of attention theory's possible contours. In discussing attention, or the remaking of attention, within the paradigm of co-enaction, co-constitution and co-evolution, they both populate and invent new relations between actors and agents and the built environment. Addressing new technologies of information and communication, the authors point to the rising development of so-called media cities – dedicated developments 'more precise and precisely designed than the global city and more tactile and fluid than the modernist city' – explored through a case-study of MediaCityUK.[58] Through the entangling of both ambient communication and digital technologies the place in a media city is at once virtual and actual. This leads Blackman and Harbord to investigate the distinction between the concepts of media and mediation. The latter possesses virtual potential, and more directly suggests informational processes and better identifies somatic experiences in affective as well as cognitive relations. As with During, Blackman and Harbord point to the problem of attention as arising in the late nineteenth century, 'tied to the problem of how a subject maintains a coherent and practical sense of the world'.[59] Yet the notion on which this study critically turns is that of memory, which the authors develop extensively in such terms as trans-subjective, co-enacted, co-emergent, and post-memory. In this scheme, the dynamic transmission of memory

is more affective than cognitive, and it is through the discussion on memory that it is possible to consider questions of affect, bodies and the task of 're-thinking and re-modeling sensation, perception, memory, attention, listening, and emotion' which is how Blackman and Harbord understand cognitive architecture.[60]

As we have seen in previous chapters, for Henri Bergson the brain does not so much have thinking as its primary function, 'but that of hindering the thought from becoming lost in dream', and as such the brain is seen as 'the organ of attention to life'.[61] The state of dreaming, like that of distraction as discussed in During, has another interpretation when read directly from a cognitive neuroscience perspective. As the title indicates, in 'The Industrious Subject: Cognitive Neuroscience's Revaluation of "Rest"', Felicity Callard and Daniel Margulies explore the other side of attention, that is, what happens in the mind when it is in a so-called state of rest.[62] The authors begin by situating their own highly specialized concerns within a broader theoretical context. Sketching upon well-founded discourse regarding the knowledge economy (knowledge commodity pace Harvey), and following Virno's account of post-Fordism as it eradicates all distinction between labour and non-labour time: 'Labour-time now draws upon, indeed depends upon, the life of the mind.'[63] But the point here is not to reiterate theories founded in philosophy, the social sciences and such, in fact, but to issue a challenge to move beyond 'generic abstractions' in an attempt to explicate the history and scope of terms and constructs that indicate humans' cognitive capacities. Under the rubric of 'cognitive productivity' Callard and Margulies open the discussion on the brain during activation versus when at rest. With this we are led to understand that, here too, such distinctions remain perched upon a certain valorization of assiduousness over idleness. Even daydreaming, distraction, and the pale thoughts that accompany idle imagination, it seems, cannot escape attempts to be harnessed by capitalism's modes of production. A point similarly taken up a bit later in this chapter with respect to 'capitalism and the mutating intellect'.

Callard and Margulies deliver a faceted and succinct genealogy of rest state research as it emerged in debates surrounding the cognitive neurosciences over the past decade, suggesting that the studies on rest have now developed their vocabulary so significantly that they are 'primed for a neuroscientific reframing of inner mental life.'[64] In this account, resting state research has significant implications for advancing our theoretical understandings of self and subjectivity. For instance, research in cognitive psychology have re-conceptualized understandings of the default mode, leading to hypotheses on such things as the future-oriented (prognosticating) nature of the resting brain, the importance of stimulus independent thought and 'self-related processing, episodic memory, social cognition, and sense of agency'.[65] The default mode function is subsumed in what

would emerge as a default mode network. Inattention, it seems, may indeed be very creative as Virno suggests, certainly it needs to be reconsidered on new grounds. Neuroscientific research carried out in advancing an understanding of rest also points to a possible reorientation of thought models within the humanities and social sciences in theorizing a notion of self in respect to non-purposeful (non-deliberate) activity. 'It is our contention that through the reconfiguration of rest, the resting brain has been territorialized: it is conceptualized and materialized as a matrix that is constituted as perpetually productive, as intrinsically creative, and as thrown toward the future.'[66] This further extrapolates to possible reconfigurations of our understanding of memory. Through such things as mind wandering, daydreaming, or the otherwise heretofore perceived aimless journeys of the mind, memories themselves become created. In terms of Bergson's philosophy, memories are not memories of perceptions, or mere recollections of events. In rest state research the purpose of memories may well be, 'less for leisured reminiscing, as in the famous example of Proust's madeleine, and more as a knowledge-base that guides our lives in an increasingly formed manner.'[67] With this, as discussed in the previous chapter, we are no longer in the domain of Proust's *mémoire involuntaire*; but still in that of Bergson's *mémoire pure* with its intimate relation to the present.

The tendency to see distraction, absentmindedness and the like as opposed to attention is suffuse through modernist discourse; and as During shows, today this opposition remains pervasive. However, we also now find that 'network brain activity "at rest" is mapped on to the psychological category of attention, such that attention's opposite no longer exists.'[68] Yet, concerns over capitalism's desire to harness all forms of creativity in cognitive capital might give us pause. Callard and Margulies also raise the concern that 'uncovering the mystery of the resting state might also be the moment in which its mystery is colonized.'[69] Resting-state research demands exploring whether such research contributes to the strengthening or to the weakening of the creative capacities of human subjects. It is impossible not to agree with the Callard and Margulies when they suggest that their colleagues in the humanities and social sciences might well have something here to learn.

The Noo-Sensorium

The implications of questions on the nature of such things as sensation, affect, perception, memory, and experience may once have sat comfortably solely in the categories of vitalist and aesthetic philosophy, yet today, as we hope to have shown here, they extend to the neurosciences as well as economic and political theory in a multiplicity of ways. This section could have been titled 'the governing of the senses', owing to 'the distribution of the sensible' following Rancière, whereby politics and

the arts construct material rearrangements of signs and images producing real effects that define 'variations of sensible intensities, perceptions and the abilities of bodies'.[70] However, once the issue of individuality and commonality are set against notions of the *bios* and *nous* in all their permutations, matters of materiality come under fire, affecting the logics of perception and experience. As with the section on plasticity, the capacity of art and architecture to generate new modes of temporalities is crucial to understanding what we here term the 'noo-sensorium'. Here we are no longer dealing with the sensorium as the sum of perception seated in sensation and focused on space or the relation to objects (visual or haptic), nor on traditional modes of aesthetic representation. Time now becomes the horizon on which the contours of perception, experience, memory, and sensation are traced. Time-technologies as apparatuses (Deleuze) and social machines (Virno) reconstitute sensibilia through both affective and intellectual processes. It is necessary to consider not only the processing of data (immediate and mediated) in relation to the body (active/reactive), as such, but also the processing of data within a mind that is increasingly directed toward the future (active/prognosticating).

This was touched upon just above in referring to the way we are now understood to construct memories during states of rest – not memories of perceptions, but memories forming perceptions. Or, as one neuropsychologist has put it: 'To conjure up an internal representation of the future, the brain must have an ability to take certain elements of prior experience and reconfigure them in a way that in its totality does not correspond to any actual past experience … the ability to manipulate and recombine internal representation critically depends on the prefrontal cortex and the emergence of this ability parallels the evolution of the frontal lobes.'[71]

John Rajchman's work, 'Deleuze's Time, or How the Cinematic Changes Our Idea of Art', begins with a reminder that there are times when our thoughts and ideas can no longer be held in old thought models, when new constellations arise in which 'upheavals in sensibilities' call for an entirely 'new image of thought'.[72] This new image of thought is that which Deleuze and Guattari have termed noology. In taking up his works on cinema, Deleuze sought to address mutations occurring in society in relation to images, to space and time, and place.[73] We are speaking here of a continuous multiplicity, of time no longer grasped as succession and space no longer held by simultaneity. Memory too, will come under reconsideration as something other, something more than mere recollection or the draw toward a past remembrance. This is not so much a disposition to the future, but a multivalent present. In Rajchman's rendering of Deleuze, sensibilia (refracted through Kant) become freed from schematic links to understanding, releasing them to artistic 'experimentation or invention'.[74] Of course, for Deleuze there is a substantial correlation between the terms experiment and experience.

Cinematic sensibilia emerge from the problematic relation between psychology and the image; 'images' here are not understood as inner representations located or held in our brains or minds, they are related instead to the questions explored in neurology and psychology. And as Deleuze's work on cinema left off in the mid-1980s, the question of how to extend his thinking further in light of new developments remains one that Rajchman takes up in his discussion on the visual arts. Architecture here comes into play as new temporal-spatial experiences of movement within time-images: 'The cinema hall or gallery is "architecture", just when architecture itself is seen in terms of a given dispositif – the darkened room itself deriving from a theatrical dispositive transformed by opera, the first modern mass form.'[75] Reference to Benjamin on the manner in which technologies and media of mass production transform our very possibilities of experience is fundamental here.[76] But the comparison runs deep, for we are not merely addressing transformations affecting architecture, cinema and art; but shifts within sensorial registers that are not yet internalized in human perception. Jameson's appraisal of architecture (inaccessible to perception) reverberates. Rajchman points to a problem with respect to the audience, a problem which 'Deleuze associates … with "thinking with cinema" – and, in a singular way, thinking with time-image cinema – is that the "the people are missing"; they must yet be invented along with making the film itself.'[77] So too was the proposition made by Benjamin as to the public's lack of resonance with lyric poetry in his masterworks on Baudelaire.[78]

Perhaps the noo-sensorium as we have here conceived it, much like the time horizon it reflects, is always receding before our grasp. Ina Blom also addresses memory, thinking, and the image – the transformative aspect of art as a means to govern the senses. In 'Spectacle versus Cinematic Sociality: Art and the New Media Architecture', she does not explore the image as such, but instead the rejection, the eradication of the image within certain artistic inventions/interventions.[79] Ruptures in time, refusals to capture attention, a refusal at the very site where media imagery is said to confront and shape subjects. Questioning how media interacts with and challenges 'the conditions for collective creation under an advanced capitalism that engages not just working bodies, but the entire human sensory apparatus – including our capacity for perception, cognition, and thinking.'[80] Blom studies Guy Debord's *Hurlements en faveur de Sade* (1952), an early critique of spectacle interrogating what had begun to be seen as a radical shift in the structuring of temporalities of individual and social memory, and Tobias Rehberger's *81 Years* (2002), a profoundly prolonged, thus experientially an a-temporal event. She refers to these examples as 'rejections of imagery', each attesting to different understandings of the way in which media interact with human perception, as well as the socio-political consequences of this interaction. Both, we believe, contain infinitesimal whisperings on the chromo-luminescent logic of the senses.

Blom suggest that in these works, although they are radically different, we see less of a concern for the production of images and forms than in an interventionist engagement with the forces that structure our everyday life. We will recognize Debord's social critique of mass media by what would become his catchphrase: 'society of spectacle'. Here we understand life as no longer authentically lived, but merely sustained through endless representations. Similarly, Rajchman points out that one of Deleuze's projects was to reinstall life in place of the subject or self. The spectacle as such structures time and reorganizes memory. Estrangement in the 'world picture' is intensified in the image-world.[81] However, while Heidegger spoke to an externalization – we cannot enter the picture, but must observe it from the outside – Blom's reading of Debord, speaks to an internalization – we cannot escape the concentration of the gaze, the continuous flow of images that capture both eye and mind, and our 'entire cognitive and sensorial apparatus'.[82] As one might imagine with half a century separating Debord and Rehberger's works, the latter's reduction of experience works differently. In fact, Blom suggests, *81 Years* even seems to pass beside the paradigm of watching, as the 'nothing to see' derives not from the lack of visual events, but from the 'sheer duration' of a work that cannot be held within a person's span of attention. Time out of joint, indeed. Images, here not as a phenomenon emerging from subjective imagination, but as 'autonomous material instances': streams of light and the flow of signals, not meanings. Signaletic material registering a sensation of movement that is impossible for human perception while, equally, capable of producing new forms of perceptual and sensorial and effects. Blom exemplifies this further with a turn to architecture, or more precisely, an intimate spatiotemporal exchange between a film and a set (not the film-set) by Philippe Parreno and Francois Roche, entitled respectively, *The Boy from Mars* by the film-maker and *Hybrid Muscle* by the architect. What her rendering of this work expresses is the permeability of succession with simultaneity, two perfectly reiterative material durations. An opening onto 'time-in-general [is] a form of radical temporalization', as Blom suggests, 'whose only real correlate is the "sense of time" produced in the human brain'.[83] We might understand this as an example of the permeability between matter and time, between the senses and their new modes of experience as located in the contours of the noo-sensorium. We would like to recall and reframe Benjamin's conception of the aura: 'the unique phenomenon of a distance, however close it may be', in the light of our contemporary technology rethought as *the unique consciousness of proximity, however distant it may be.*

Jordan Crandall exposes a different reading of proximity and distance, of coordinates (co-ordinations) of temporal-spatial and cognitive-sensorial events. In 'Movement, Agency, and Sensing: A Performative Theory of the Event', Crandall provides a virtual lexicon of the terms and conditions within which both human and machinic agency interact, interoperate, inter-immerse.[84] A Borgesian taxonomy of technologies of

information: networks of networks within networks. Through techniques of tracking, of tracing (codifications of movements), cartographies of surveillance, data-mining, (locationing of agential articulation), sensors, processors, and filters ('centres of indetermination'), the author unfolds a new continent in thinking the agent as actor. Or, perhaps we should speak rather of an actor, following Deleuze in his conceptualization of 'a life' as 'expressing singularities or events that coexist with the accidents of the life that corresponds to it'.[85] There is something at once 'inhuman and vital' in Crandall's reading of agency, of apparatuses and prosthetic devices of extension that both expand and contract human and non-human perception and action into realms that even the imagination is just able to touch.[86] The sensorium in Crandall is related to something other than (mere) sensory faculties of animate bodies. Wolfe's reading of Spinoza suggests that ontology makes no clear-cut distinction between the natural and artificial. And his account of agency in Negri as well as that of scaffolding in Clark, could be instructively read in relation to Crandall. Of course, in the case of distributed cognitive systems, the body (itself already a distribution system), the human is only one kind of actor among countless others. A body, in Deleuze, much like the agent in Crandall, can be almost anything: 'it can be an animal, a body of sounds, a linguistic corpus, a social body; yet, a body must be defined as a unity of parts, parts held together relationally and having a capacity to affect and be affected both internally and externally. But in all the bodies and their actions and interpenetrations, which Deleuze sometimes calls resonance and interference, there is also the incorporeal, which for the stoics lies in making a line of separation pass no longer between the sensible and the intelligible.'[87] Affect, in Crandall's account, is a vitality, a pure potentiality. And further, it is 'an undifferentiated, moving kaleidoscope of sensations and states … a form of activation that is not necessarily available to the conscious mind, but is shared nonetheless by the synaesthetic perceptual faculties of the body substrate – including the proprioceptive [and] the visceral … . Agency acts through combinatory practices, assemblages that span familiar designations and ontological distinctions, and which connect deep into the realms of the somatic-sensorial, and the imaginary.'[88]

Bergson's pathology of duration is here echoed in what we can refer to as Crandall's pathology of the (performative) event. What actors may become, what new molar organizations take place – that is the concept of organism or machine – depends also on the event as understood by science. In the theory of science as événementielle, scientists are more and more concerned with singular events of an incorporeal nature that are affected in bodies, in states of bodies, in completely heterogeneous assemblages. In Crandall there are heterogeneous actors, bodies and the events that pass across irreducible domains, there are lines that shoot between domains – interregnums – and science and technology are part of a new geography of resonances to which the term 'radical relationality' may here well apply.[89]

Capitalism and the Mutating Intellect

There is an important distinction to be made between so-called neoliberal economies (global capitalism) and emerging theories of cognitive capitalism. Not that the mental and cognitive were absent in the earlier forms of capitalism, but that the degree to which the mind and the mental are engaged by those power structures (soft power) – and how they have been inflected into our very patterns of thought – has never been as rigorously pursued or intense. One might add simply that if globalization can be generally said to act to spatially reconfigure our geographic world, then cognitive capital further acts through a reconfiguration of the temporal structures that also serve to mediate such things as memory and attention. This time of space no longer refers to capitalism solely as a mode of production of material goods and labour. Neither does it simply insinuate immaterial labour and goods prevalent in neoliberal economies, nor organizations of power and distribution of intensive networks that capital production reproduces. We are here referring to highly complex sets of tangible and intangible forces and factors – simultaneously integrated and dispersed – in the production of political-aesthetic cosmologies and socioeconomic ecologies. In this contemporary moment, we are fully immersed in new networks of relations, and subjectivities. These are both empowering and coercive means and distributions of relations of forces – biopower and noopower – operating through and within both biopolitics and noopolitics.

The 'mutating intellect' indicates the moving, shifting, and transformative capacity of ideas, or of 'thinking' as opposed to 'thought.' It is neither necessarily evolutionary (if evolution implies an ascendance to a more refined or advanced organization); nor does it intend a so-called 'global-mind' or 'universal-consciousness' (as found in Vladimir Vernadsky or Pierre Teilhard de Chardin's concept of the noosphere). It cannot be subsumed in the notion of the general intellect as discussed above. This does not, of course, mean that the mutated intellect is not based in a collective or commons, in fact it may well loosely approximate the Ego Sum = Eco Cum as formulated by Jean-Luc Nancy.[90] And naturally, as we hope to have already made clear, we do not consider the notion of intellect as solely belonging to the domain of 'human' thinking, as it transgresses into both natural and artificial agency in all its complex and nuanced permutations.

In 'Mutations in Contemporary Urban Space and the Cognitive Turning Point of Capitalism,' Yann Moulier Boutang presents an argument that holds particular significance for architecture and urban practice.[91] He presents an insightful reading of the current state of political economy and cognitive capitalism grafted upon the economy of contributions and an ecological argument based upon what he refers to as 'beeconomics', concluding with a compelling call to urban designers.

Reformulating the principles of the noosphere, he situates his discussion of the noopolitic. Pointing out in his opening comments that since the scientific turning point that enunciated our human capacity to decimate the globe (identified with Oppenheimer at Los Alamos), what once sat comfortably in the domain of the *bios* shifted to the *nous*: 'The potential of catastrophic actions is both implicit and explicit within the efforts of intellectual activity.'[92] Both literally and figuratively, Moulier Boutang extols the beehive as an exemplary model of a healthy socioeconomic and ecologically viable society. Bee colonies are endangered and the author reminds us that without bees the entire ecosystem will collapse. He projects the idea of pollination (one of the bee's most fundamental functions) on society. Corresponding to pollination Moulier Boutang identifies various modes of circulation of information, knowledge, affect, and care. This corresponds well to our understanding of noopower. An information-based society (whether codified or implicit) increasingly relies on intangibles. But, as previously discussed, these immaterialities are reconfiguring the entire socioeconomic system through growing intensities of diffusion ('networks of networks') at a virtually global scale. The question to ask, the further parallel to be made, is how capitalism can engender positive externalities such as those found in pollination? Positive externalities (negative ones as well) are understood as conditions resulting indirectly from the activity of a primary function. Positive (or negative) spin-offs some might say in a simplified way.

If industrial and mercantile capitalism captured the value of mental effort through such things as patents and copyrights and intellectual property (still belonging to internal models of equivalency); cognitive capitalism has long understood that greater value can be extracted from such 'pollinations' than from material production; opening, in fact, an entirely 'new continent of wealth for capitalist valorization'.[93] Examples such as data mining, information search engines, and on-line networking exemplify new forms of cognitive capitalism that have become apt at capturing externalities. The problem, Moulier Boutang points out, is that economics based on market output (relations of equivalencies in their measurable or monetary form) has not yet developed a model to correctly value these externalities.

Borrowing form Karl Polanyi's *The Great Transformation* of 1944 (identifying three fundamentals of market economy in capital, labour, and money), Moulier Boutang suggests that there is a new 'great transformation' taking place due to new relations between ownership and property. We would add to his discussion on intellectual property, housing rights for those who are unable to own property.[94] Transformations that cannot help but have profound repercussions and impacts on our conceptions of space. Structures, form, geometric segregations, conventions, order, and hierarchies, so too the advent of digital techniques, computational repetition and networks – *res extensa* extended. Boutang offers a glimpse of the

history of architecture as 'the complex coexistence of pieces of Euclidian space situated between a global arrhythmic fabric [that] reflects the incorporation of the virtual through digital devices with respect to the way in which the brain works, communicates and lives.'[95] But then, there is the 'chiasmus of political economy and ecology': a structure that requires urban architecture to fundamentally change.[96]

Naturally, the terms we use to identify these relatively new configurations, must also be held to scrutiny. Warning against the tendencies in the humanities and social sciences to too quickly appropriate terms and ideas issuing from the neuro- and cognitive sciences is not so much a guarding of disciplinary boundaries as an appeal that we might grasp the full consequences of the cross-application of terminologies within diverse discursive practices. As Gabriel Rockhill argues, we must also challenge the moniker 'globalization' as a reckless 'conceptual abbreviation' that holds everything from economics, politics, society, culture, to technology within its grasp. In 'A Specter is Haunting Globalization', Rockhill argues that the implicit belief that globalization is actually as geographically extended as the term itself implies identifies the distance that exists between words and things.[97] Reminding us that if globalization has indeed, as it purports, created a singular world – a unified economic market, world-wide information network, homogenized cultural products, and so forth – then 'globalization allows us to resist its consequences only if we are already subject to its effects'.[98] The implications of such a reality (virtual or actual) should be seen to have profound effects on cognitive constructions of self and world. Naturally, globalization cannot be captured as a 'word', or reproduced as a 'thing', it 'emerges from practices linked to a specific schematization of the world, practices that have, moreover, been effective insofar as they have helped produce "the thing" supposedly described by "the word."'[99]

But it is the spectre of vulgar Marxism to which we turn our focus. The supposed antagonist of globalization, it would seem, unwittingly providing the principles for its (historical) inevitability. Globalization's historical centre of gravity seems indeed to be immense. The consequence of accepting such an inevitability leads to an abandonment of all political and economic responsibility. The invisible hand of the market instantiated from Thatcher's acclaim of neoliberalism in her 'There Is No Alternative' slogan, to Bush's bailout of the US economy (businesses and institutions that had become too large to be allowed to fail), as well as his non-apologetic hubris that delivered a blow to the US constitution (from the Patriot Act, to illicit wiretapping, the list goes on and on). Rockhill sees this as 'naturalizing the economy and transforming it into an autonomous authority', which acting independently of any singular or collective agency has the unfortunate consequence of promoting 'passive reactivity'.[100] Borrowing from Rancière, Rockhill speaks of the *idée-force*, which 'intertwined with political, social, technological, and economic practices

… has played a fundamental role in the imposition of a new world image in which a determinist teleology dictates our destiny.'[101] And indeed, when any image of thought becomes a 'world-image' then we are witnessing cognitive capitalism and the effects of an action at a distance, resisting the consequences of globalization only once we are already subject to its effects.

So easy it is, or so it appears, to fall into the dark matter of such intellectual constructs. Against ideology Rockhill puts forward instead the idea of 'political imaginaries' as a mode of intelligibility secured in the practical sense of agents. A political imaginary, in this account, allows for a world-image that is entwined in perceptive and discursive dispositions. And dispositions, according to Easterling, offer an unfolding relationship between potentials, and resist codification in favour of practice. This resistance is of significance as we are concerned here with the power of words, their force of form as codifications into what some may see as ideological meta-narratives working toward the production of subjectivities. Then the works of Maurizio Lazzarato offers much for consideration.

While Lazzarato's 'Life and the Living in Societies of Control' has had a clear impact on discourse related to the noopolitic, his essay, '"Exiting Language", Semiotic Systems and the Production of Subjectivity in Félix Guattari' speaks specifically to the construction of subjectivity as that which is now most widely produced by modes of capitalism within a 'global mass industry'.[102] Subjectivity, he suggests, must be considered a key commodity in Guattari, and he begins by outlining the pitfalls of structuralist theories of subjectivity as constructed through language. Subsequently he utilizes (primarily) Guattari's work as a foil upon which to conceptualize a more adequate understanding of our contemporary capitalist condition. In this view, the world is no longer logo-centric, but instead has become 'machine-centric'. Machines here include not only those of technology, but equally those produced by scientific, theoretical, economic, social and immaterial models; in other words, machine-centric productions of subjectivity as they have been posited in various forms throughout this chapter, albeit without the application of that specific moniker. Lazzarato argues that 'statements are issued and received not by individuals, speakers and listeners – as in a communicative version of methodological individualism', but instead (and here citing Guattari) 'by complex assemblages of individuals, organs, material and social machines, of semiotic, mathematical and scientific machines'.[103] And importantly, such machine-centric modalities, or 'expression machines' are as much 'extra-human, extra-personal' (economic, scientific, technological, etcetera) as they are 'infra-human, infra-personal' (perception, memory, sensibility, affect).

In 'Exiting Language', Lazzarato articulates an account of relevant semiotic systems (symbolic semiologies and semiologies of signification) and theories necessary in order to develop a semiotic theory that goes beyond the semiotic register in (human) language. In other words, he is working towards a theory that will better address contemporary modes of capitalist organization. Semiotic systems which, as modes of operation, simultaneously organize the 'production of subjectivity' and the 'production of the real'. And it is with this that we find Guattari's assertion that we must 'exit language'. An assertion that Lazzarato will reiterate in discussing what he believes to be Guattari's most radical innovation – the notion of a-signifying semiotics. 'A-signifying semiotics are the semiotics of mathematics, stock quotes, money, business and national accounting, computer languages, the functions and equations of science; but they are also the semiotics of music, art, and so on.'[104] They work outside the necessity of human (linguistic) signification, or systems of correspondence, whereby meaning can be said to take place. Here, correspondence takes the form of equivalencies based on an entirely other measure – diagrammatic, functional, operative, etcetera; in other words, with Guattari, we simply 'exit the semiotic register'. Of course, no single semiotic register operates in isolation (though they can be analysed as such), semiotic systems are 'mixed' and Lazzarato will return to the signifying semiologies in two accounts: first, that of economics to show the power of the market to bring about a mutation of subjectivity, secondly, that of human 'mixed semiotics' in respect to the emergence of the 'senses of self.' This sense of self that emerges through language (articulations, utterances, statements) is something other yet not dissimilar to that which becomes realized through action (perception, memory, visibilities).

The disciplinary range of the authors included in this chapter arguably demonstrates one of the dissertation's most valuable achievements. It includes works by scholars, scientists, and practitioners in the areas of philosophy, neuroscience, cognitive psychology, economics, sociocultural theory, architecture theory and more. These inputs are conceived as a series of dynamic contingencies to be read as a distributed and complex network of ideas, which, taken together, will hopefully help to open up the possibility of new vocabularies and tools with which to further develop our understandings our contemporary cognitive turn. This is a mark of a decidedly transdisciplinary approach. Brian Massumi has written, that 'just as the body lives between dimensions, designing for it requires operating between logics. … A translogic is different from a metalogic. It doesn't stand back and describe the way multiple logics and the operative levels they model hold together. It enters the relations and tweaks as many as it can to get a sense of what may come.'[105]

An extended version of this chapter has appeared in: *Cognitive Architecture: From Biopolitics to Noopolitics. Architecture & Mind in the Age of Communication and Information*, eds. D. Hauptmann, and W. Neidich (Rotterdam: 010 Publishers, 2010).

Notes

1   Catherine Malabou, *What Should We Do with Our Brain?,* trans. Sebastian Rand (New York: Fordham University Press, 2008).

2   This is taken up extensively in: Gilles Deleuze, *Foucault.*

3   See Fredric Jameson, 'Critical Response: How Not to Historicize Theory', *Critical Inquiry* 34 (Spring 2008).

4   Maurizio Lazzarato, 'The Concepts of Life and the Living in the Societies of Control', in *Deleuze and the Social*, ed. Martin Fuglsang and Bent Meier Sorensen (Edinburgh: Edinburgh University Press, 2006), 180.

5   Ibid., 186. With this it should be clear that we have taken this term from Lazzarato. Naturally, we hope that our work here will serve to offer something in return.

6   Ibid., 187.

7   For those readers interested in an overview of discussions on architecture and the brain, see Harry Francis Mallgrave, *The Architect's Brain: Neuroscience, Creativity, and Architecture* (Oxford: Wiley-Blackwell, 2010). Although my own approach to this topic, as well as the issues that concern us here, differ quite substantially from Mallgrave, I regard his book as an important contribution to this emerging discourse with respect to the discipline of architecture.

8   Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction,' in *Illuminations.*

9   References in this paragraph, respectively: Bergson, *Time and Free Will*; Benjamin, 'The Work of Art in the Age of Mechanical Reproduction'; and Fredric Jameson, *Postmodernism, or the Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press, 1991).

10 Some consider the concept of pluripotentiality as deriving from the scientific work on stem cells and embryonic development of Raymond Ryer. His work influenced Deleuze and subsequently various Deleuzian scholars and theorist with respect to thinking on plasticity that successfully navigates science on one side, and social and theoretical considerations on the other. See, for instance: Raymond Ruer, *Neofinalism*, trans. Alyosha Edlebi (Minneapolis: University of Minnesota Press, 2016).

11 Paolo Virno, 'Natural-Historical Diagrams: The "New Global" Movement and the Biological Invariant', *Cosmos and History: The Journal of Natural and Social Philosophy* 5, no. 1 (2009). Citing from the version entitled 'Movement' in *Cognitive Architecture. From Biopolitics to Noopolitics. Architecture & Mind in the Age of Communication and Information*, eds. Deborah Hauptmann, and Warren Neidich (Rotterdam: 010 Publishers, 2010), 65.

12 'Movement' *Cognitive Architecture*, 67.

13 Gilles Deleuze, 'Postscript on Societies of Control', *October* 59 (Winter 1992)

14 Virno, 'Movement', 69.

15 Giorgio Agamben, 'On Potentialities', in *Potentialities: Collected Essays in Philosophy*, trans. Daniel Heller-Roazen (Stanford: Stanford University Press, 1999), 177–84.

16 Patricia Reed, 'The Politics of "I Can"', in *Cognitive Architecture,* 79–88.

17 Ibid., 81.

18 Ibid. Reed is here referring to the work of Erinn Cunniff Galison, 'Zones of Indiscernibility: The Life of a Concept from Deleuze to Agamben', *Philosophy Today* (January 2007): 98–106.

19 For instance, see: Jacques Rancière, *Disagreement: Politics and Philosophy,* trans. Julie Rose (Minneapolis: University of Minnesota Press, 1998).

20 Reed, 'Politics of "I Can"', 83.

21 Michel Foucault, *Discipline and Punish.* Foucault develops the idea that the 'police' signified a '*program of governmental rationality*' – not an individual or body – an enforcing body, but a system of regulation of the 'general conduct of individuals'. In this schema of a system, control is understood as a necessity of 'self-sustenance', in other words, a system without the need for intervention because the good of the self and the good of all was aligned.

22 Gilles Deleuze, *Foucault*, 44.

23 Boris Goys, 'Comrades of Time', *E-Flux Journal*, no. 11 (December 2009). A revised version under the same title in *Cognitive Architecture* is cited here.

24   Groys, 'Comrades of Time', 95.

25   Ibid. Groys is referring to Deleuze's *Difference and Repetition,* trans. Paul Patton (New York: Columbia University Press, 1994).

26   Groys, 'Comrades of Time', 96.

27   Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', 224.

28   Groys, 'Comrades of Time', 98.

29   Marcus Jacobson, *Developmental Neurobiology* (New York: Plenum Press, 1991), 26.

30   Steven Quartz and Terrance Sejnowski, 'The Neural Basis of Cognitive Development: A Constructivist Manifesto', *Journal of Behavioral and Brain Sciences,* 20 (1997): 537–96. We produced a highly abridged version of this seminal paper, published under the same title, in *Cognitive Architecture.*

31   Quartz and Sejnowski, 'Neural Basis of Cognitive Development' in *Cognitive Architecture*, 110.

32   Ibid., 115.

33   J. A. Scott Kelso, *Coordinated Dynamics: Issues and Trends,* ed. Viktor K. Jirsa and J. A. S. Kelso (New York: Springer Publishing, 2004).

34   J.A. Scott Kelso, 'Metastable Mind', in *Cognitive Architecture,* 119.

35   Ibid., 128.

36   In Kelso 'perchings' are viewed as 'phase gathering, integrative tendencies', while 'flights' are understood as 'phase scattering, segregative tendencies'. See: J. A. Scott Kelso, 'An Essay on Understanding the Mind', *Ecological Psychology* 20, no. 2 (2008): 180–208.

37   Gerald M. Edelman, *The Mindful Brain: Cortical Organization and the Group-Selective Theory of Higher Brain Function* (Cambridge MA: MIT Press, 1978).

38   Bruce Wexler, *Brain and Culture: Neurobiology, Ideology and Social Change* (Cambridge, MA: MIT Press, 2006).

39   Bruce Wexler, 'Shaping the Environments that Shape our Brains: A Long-Term Perspective', in *Cognitive Architecture*, 143.

40   Bruce Wexler, 'Shaping the Environments that Shape our Brains', 154.

41   Ibid., 165.

42   Maurizio Lazzarato, 'From Biopower to Biopolitics', *Tailoring Biotechnologies* 2 (2006): 11–20.

43   John Protevi, 'Deleuze and Wexler: Thinking Brain, Body, and Affect in Social Context', in *Cognitive Architecture,* 169.

44   Protevi, 'Deleuze and Wexler', 169.

45   Charles Wolfe, 'From Spinoza to the Socialist Cortex: Steps Toward the Social Brain' in *Cognitive Architecture.*

46   Wolfe, 'From Spinoza to the Socialist Cortex', 190.

47   Lukas Ebensperger, Suparna Choudhury, and Jan Slaby, 'Designing the Lifeworld: Selfhood and Architecture from a Critical Neuroscience Perspective', in *Cognitive Architecture*, 233.   It is worth noting that these three co-authors are respectively from the fields of the history of science, cognitive science, and philosophy. As such, they exemplify transdisciplinary research.

48   Ibid., 240.

49   Ibid., 242.

50   At a 2017 conference in London entitled *Between Data and Senses,* my keynote opened the proceedings and MIT professor Constantinos Daskalakis closed them. Professor Daskalakis is considered by many a *wunderkind* in the field of computer science. In his closing I witnessed a messiah of artificial intelligence speak of algorithm as if it were scripture and of the AI future of humankind as if it were the Ark of Noah. I have little doubt that, at least for a brief period, everyone in the auditorium was converted. The effects of a Daskalakis-envisioned future on the notion of attention – the effects of the computational speed of processing data in contrast to human cognitive processes – requires critical theoretical consideration.

51   On the General Intellect, see Marx's 'Fragments on Machines', from the *Grundriss*e. For an exceptional critique of the concept, see Paolo Virno, 'General Intellect', *Historical Materialism: Research in Critical Marxist Theory* 15 no. 3 (2007): 3–8.

52   Kelso, 'An Essay on Understanding the Mind', 197.

53   Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (New York: Verso, 2016).

54   Easterling, 'Disposition', in *Cognitive Architecture*, 258.

55   Elie During, 'Loose Coexistence: Technologies of Attention in the Age of the Post-Metropolis', in *Cognitive Architecture,* 277.

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56   I discuss this condition of shock and disassociation (Benjamin's S*chockerlebnis*) in Chapters One: 'Live Space' and Chapter Four: 'Benjamin and Bergson'.

57   During, 'Loose Coexistence', 277.

58   Lisa Blackman and Jane Harbord, 'Technologies of Mediation and the Affective: A Case-study of the Mediated Environment of MediaCityUK', in *Cognitive Architecture*, 306.

59   Jonathan Crary, Suspensions of Perception: Attention, Spectacle and Modern Culture (Cambridge, MA/London: MIT Press, 2000), 4.

60   Blackman and Harbord, 'Technologies of Mediation', 319.

61   Bergson, *The Creative Mind*, 74.

62   Felicity Callard, and Daniel Margulies, 'The Industrious Subject: Cognitive Neuroscience's Revaluation of "Rest"', in *Cognitive Architecture*.

63   Callard and Margulies, 'The Industrious Subject', 325. On this point, see also note 50 in this chapter.

64   Ibid., 330.

65   Ibid., 332.

66   Ibid., 337.

67   Moshe Bar, 'The Proactive Brain: Memory for Predictions', *Philosophical Transactions of the Royal Society of London – Series B* 364: 1235–43.

68   Callard and Margulies, 'The Industrious Subject', 339.

69   Ibid., 343.

70   Jacques Rancière, *The Politics of Aesthetics*, 35.

71   Elkhonon Goldberg, *The Executive Brain: Frontal Lobes and the Civilized Mind* (Oxford: Oxford University Press, 2001), 25.

72   See: Deleuze and Guattari, *A Thousand Plateaus*. See, for instance, the section 'Treatise on Nomadology – The War Machine' where they write: 'Problem II. Is there a way to extricate thought from the State model? Proposition IV. The exteriority of the war machine is attested to, finally, by noology.'

73   Reference here to Deleuze's two volumes on cinema: *Cinéma 1. L'Image-Mouvement* and *Cinéma 2, L'Image-temps*, 1983 and 1985 respectively. These works substantially address the work of Bergson and may well contribute more to Bergsonian philosophy than film studies itself.

74   John Rajchman, 'Deleuze's Time, or How the Cinematic Changes Our Idea of Art', in *Art and the Moving Image*, ed. Tanya Leighton (London: Tate, Afterall, 2008).
A revised version of this article was published in *Cognitive Architecture*, here reference to page 353.

75   Ibid., 361.

76   Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', 222.

77   Rajchman, 'Deleuze's Time', 362.
The primary reference is to Gilles Deleuze, *Cinema 2: The Time-Image,* trans. H. Tomlinson and R. Galeta, (Minneapolis: University of Minnesota Press, 1989).

78   Benjamin, 'Some Motifs in Baudelaire'.

79   Ina Blom, 'Spectacle versus Cinematic Sociality: Art and the New Media Architecture', in *Cognitive Architecture*.

80   Ibid., 370

81   For an excellent account of the 'world picture', see: Karsten Harries, ' The Task of Art in the Age of the World Picture', in *The Body in Architecture,* ed. D. Hauptmann (Rotterdam: 010 Publishers, 2008), 82–93.

82   Blom, 'Spectacle versus Cinematic Sociality', 371.

83   Ibid., 381.

84   Jordon Crandall, 'Movement, Agency, and Sensing: A Performative Theory of the Event', in *Cognitive Architecture*.

85   Gilles Deleuze, *Two Regimes of Madness: Texts and Interviews 1975-1995* (New York: Semiotext(e)/Foreign Agents Series, 2007), 391.
From the essay entitled 'Immanence: A Life.' The above excerpt continues with: 'but they are not arranged and distributed in the same way. They relate to one another in a completely different way than individuals do. It even seems that a singular life can do without any individuality at all, even without any of the concomitants that individualize it.' I include this here as a rendering that somehow summarizes the dispositional status of 'actor' which we find throughout Crandall's work.

86 I take the phrase 'inhuman and vital' from Rajchman's 'Deleuze's Time', used there to describe an 'underground element in the kind of time and movement the cinematic image makes visible.' (Deleuze qua Bergson).

87 This reading on the body in Deleuze is extracted from my opening statement in *The Body in Architecture* (Rotterdam: 010 publishers, 2006). If one replaced the term body with actor and the name Deleuze with Crandall, this passage would, with minor exceptions, hold.

88 Crandall, 'Movement, Agency, and Sensing', 413–14.

89 See note 86; the difference here is that I have revised my account with respect to Crandall. Four years separate *The Body in Architecture* and *Cognitive Architecture,* and only in developing the second, did the true implications of the first become clear.

90 As referenced in Chapter Two, this formulation comes from Nancy's *Being Singular Plural.*

91 Yann Moulier Boutang, 'Mutations in Contemporary Urban Space and the Cognitive Turning Point of Capitalism', in *Cognitive Architecture,* 455.

92 Ibid., 445.

93 Ibid., 460.

94 See: Maurizio Lazzarato, *The Making of Indebted Man: An Essay on the Neoliberal Condition,* trans. Joshua David Jordan (Amsterdam: Semiotext(e), 2012).

95 Moulier Boutang, 'Mutations in Contemporary Urban Space', 463.

96 Yann Moulier Boutang, 'L'irruption de l'écologie ou le grand chiasme de l'économie politique', *Multitudes*, no 24 (2006): 97–106.

97 Gabriel Rockhill, 'A Specter is Haunting Globalization', in *Cognitive Architecture.*

98 Ibid., 472.

99 Ibid., 474
    This idea of what can be seen, or said to be a thing, and what can be spoken, or captured in a word, is discussed at some length with respect to 'statements' and 'visibilities' (Lefebvre/Foucault) in Chapter Three of this volume.

100 Ibid., 480

101 Ibid., 487

102 Maurizio Lazzarato, '"Exiting Language", Semiotic Systems and the Production of Subjectivity in Félix Guattari', trans. Eric Anglès, in *Cognitive Architecture,* 505. Here referring to Félix Guattari, *Cartographies schizoanalytiques* (Paris: Galilée, 1989), 77.
    In an author's note to his contribution to *Cognitive Architecture,* Lazzarato writes that this text belongs to a project aimed at expanding the concept of noo-politics by drawing on the work of Guattari.

103 Lazzarato is here referencing Guattari, *Cartographies schizoanalytiques*.

104 Lazzarato, '"Exiting Language"', 512.
    See also, *Footprint*, Issue 14 (Spring 2014), 'Asignifying Semiotics: Or How to Paint Pink on Pink'.

105 Brian Massumi, *Parables For the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002), 207.

Excursus

On Bergson's Two Kinds of Multiplicity

Henri Bergson's first major and early work *Time and Free Will: Essay on the Immediate Data of Consciousness* provides a basis for exploring the concept related to the distinction between spatial and temporal categories formulated under the terms of *discrete* and *continuous* multiplicities. Inclusive to this will be a brief introduction to Bergson's notion of the virtual. This excursus will provide an interpretation of the concept of multiplicity that remains close to Bergson's thinking of space as homogeneous and time as heterogeneous. Although with Bergson, and certainly Deleuze and similar thinkers, a much more complex way of thinking the dynamics of space is indeed possible; the intention here is primarily to provide a basis for first decomposing the composite of time and space (or the one and the many) in order that in recomposing it we might operate with a clearer understanding of the elementary characteristics and attributes of our contemporary ontology of the virtual. Deleuze, in paraphrasing Bergson, summarizes the two kinds of multiplicity as such:

One is represented by space (or rather, if all the nuances are taken into account, by the impure combination of homogeneous time): It is a multiplicity of exteriority, of simultaneity, of juxtaposition, of order, of quantitative differentiation, of difference in degree; it is a numerical multiplicity, discontinuous and actual. The other type of multiplicity appears in pure duration: It is an internal multiplicity of succession, of fusion, of organization, of heterogeneity, of qualitative discrimination, or of differences in kind; it is a virtual and continuous multiplicity that cannot be reduced to numbers.'[1]

This excursus will not address architecture and urbanism directly, the concepts and notions explored contribute to the ongoing debates within many forms of spatial theories engaged in discourse that sees the city as an emergent and dynamic phenomenon capable of both acting and being acted upon; the urban entity as it offers powerful stabilities while at the same time generating a series of seemingly fragmented moments of a captured yet still generative force. While we discuss similar issues in other chapters, we have not elsewhere addressed questions of centrality that continue to arise even in the face of the seeming agreement that the city is

now composed of multiple and diverse parts. Each (part) capable of generating a unique 'centrality', each amongst the others forming an overall dynamic that cannot be explained by merely thinking the multiple within a more traditional notion of 'plurality'.

On Unit and Unity

In *Time and Free Will* Bergson introduces what may well be one of the most underappreciated aspects of his philosophy – the formulation of the logic of multiplicities.[2] In Chapter I, 'The Intensity of Psychic States', Bergson concludes with the argument that we cannot discuss psychic states, aesthetic feelings, affective sensation or moral feelings in the manner of a scientific quantifiable. He demonstrates that 'feelings', while they may be expressed in terms of greater and lesser intensity, cannot be calculated in direct correspondence with the physical function proper to external cause – not, at least, if we maintain that the lesser can be contained in the greater as in the case of an extended magnitude. This is not to say that intensive states do not seemingly have the effect of changes in degree of intensity, but this is due to our habit of conceiving pure temporal states – which are affective – in terms of space. Thus, we see change in analytical terms, whereby qualitative differences in kind are construed as quantitative measurements of degree and accomplished through representational symbols. Put otherwise, in proportional relation to affective character and representational symbol, a sensation loses the former as it becomes the latter. Our reactions to the change tend to recede, while at the same time we perceive the external object (which is its cause). This cause perceived as object is extensive and measurable:

a constant experience which began with the first glimmerings of consciousness and which continues throughout the whole of our life, shows us a definite shade of sensation corresponding to a definite amount of stimulation. We thus associate the idea of a certain quantity of cause with a certain quality of effect; and finally, as happens in the case of every acquired perception, we transfer the idea into the sensation, the quantity of the cause into the quality of the effect. At this very moment the intensity, which was nothing but a certain shade or quality of the sensation becomes a magnitude.'[3]

For the sake of argument, Bergson allows that we can discuss two types of 'quantity': one intensive, admitting of 'more and less' and the other extensive, lending itself to measure. Additionally, however, he provides that while the second is supported by representation and *acquired* perception, the former admits of something other, of what he terms a *confused* perception. 'The idea of intensity is thus situated at the

junction of two streams, one of which brings us the idea of extensive magnitude from without, while the other brings us from within … the image of inner multiplicity.'[4] With this Bergson introduces the idea of a 'concrete multiplicity', as that which unfurls itself through time, or more precisely, for Bergson, as that which is unfolded in pure duration.[5]

In the second chapter of *Time and Free Will*, entitled 'The Multiplicity of Conscious States. The Idea of Duration', Bergson introduces the problem of the singular and the multiple in terms of spatial and temporal orders and uses the case of the mathematical numeric in order to identify the confusion between quantitative and qualitative categories. Here, number is understood as both an individual collection of units and a unity of multiple parts. Conceived either inclusively in a single image or in succession as discrete elements, the mistake, he consistently argues, is in thinking that succession places these elements in time (*durée*) as opposed to space.[6] Number, he writes, 'may be defined in general as a collection of units, or, speaking more exactly, as the synthesis of the one and the many'.[7] Every number can be considered as 'one' in that it is given a name (symbol) and can be identified by a simple intuition which brings it forth. I can mention the number three for instance and you can all bring forth an adequate representation of it. Equally, however, we also know that this number can be decomposed into a collection of units (1 +1 + 1), and on to infinitum. What is important to the argument is simply to realize that any and all such units are identical. There are also cases of enumerations where we can draw distinctions with regard to the individual units. One such example Bergson gives is when we count the soldiers in a battalion, we are dealing with a numeric identical with which we achieve a 'unity' (the simplest relation of part to whole). However, when we call the roll of names, we are distinguishing particular features which, although they can be enumerated, cannot in any way be accumulated to a numeric totality. The problem that emerges from this seemingly non-problematic description is this: while 'the idea of number implies the simple intuition of a multiplicity of parts or units, which are absolutely alike … (somehow) they must be distinct from one another, since otherwise they would merge at once into a single unit.'[8] In this view, things that are constituted by duration and motion are not given as objects but only appear to arrive as such through the process of 'mental syntheses'. In our consciousness, states permeate one another and imperceptibly organize themselves into a whole, and in this way, they are able to bind the past to the present. Conceived as a virtual, qualitative and concrete multiplicity, this duration only possesses the potential to contain the numeric. With Bergson, in short, we must admit two kinds of multiplicity: 'two possible senses of the word "distinguish", two conceptions, the one qualitative and the other quantitative, of the difference between *same* and *other*. Sometimes this multiplicity, this distinctness, this heterogeneity contains number only potentially, as Aristotle would have said. Consciousness, then, makes

a qualitative discrimination without any further thought to counting the qualities or even of distinguishing them as *several*.'[9]

The question thus arises, what is the mechanism we utilize when conceiving of numeric extension? In order to perform such a simple operation as counting we have to retain the successive images of a thing (be it concrete – a soldier in a battalion, or abstract – the symbolic representation and repetition of the number twelve for instance), we set them alongside each other in spatial juxtaposition as an 'extended image'. The problem here is simple, as Bergson observes, we have fallen into the habit of believing that we are counting in time as opposed to in space. Does experience retort: 1 (second), 2 (seconds), 3 (seconds) and on to (temporal) infinitum? Perhaps, but with Bergson, the argument is that numeric, linear 'clock-time' is nothing more than a spatialization of instants that pre-suppose spatial extensity and not temporal intensity, or the life of 'real duration'. 'Note that the mental image thus shaped implies the perception, no longer successive, but simultaneous, or a *before* and *after*, and that it would be a contradiction to suppose a succession which was only a succession, and which nevertheless was contained in one and the same instant.'[10] To illustrate the point: It is 12:58 and your train is leaving for the airport at 1:07 (thus 9 numerically identical units measured in an arbitrary figure we call minutes, between this moment and the moment the train departs). How is it then that this numeric extension could be experienced as a 'unit' of varying intensities? Two scenarios: One, you are safely sitting on the train, your luggage stowed and (although in full anticipation of the journey ahead, which forms its own unique intensity) you open a book and begin to read. Two, you are running through the city, luggage in tow, colliding into one obstacle after another, from the red lights that catch you at the cross walks to the kindergarten class waddling along hand in hand forming a block as distinct as the construction site that you just detoured around, all the while checking the seconds on your watch as they relentlessly tick by at a seemingly ascending rate. The question is simple: are these two states of temporal extension precisely equal within the particular consciousness that perceives them? Whereas we can say empirically, that the numerically extensive passage of time will be identical in either case. The answer is clearly that they are not equal in concrete experience nor are they identical in perception.

On the Discrete and the Continuous

Bergson introduces an additional term for this idea of number which implies a 'visual image in space': *discrete multiplicity.* And he will later set this against the other idea of multiplicity which will come to be known as a *continuous multiplicity*. The former being related to quantitative distinctions and belonging properly to the domain of

space and the latter to qualitative differentiations and belonging to the domain of time understood as duration (*durée)*. Further, the discrete multiplicity is by definition divisible (as discussed above, number can be infinitely divided) and the continuous multiplicity by nature indivisible. This brings us back to the problem of the 'unity of the whole' (every number being both a collection of units and a unity in itself as a synthesis of the units which compose it). Bergson writes that 'there are two kinds of units, the one ultimate, out of which a number is formed by a process of addition, and the other provisional, the number so formed, which is multiple in itself, and owes its unity to the simplicity of the act by which the mind perceives it.'[11] Yet, with this we are returned to a similar point as mentioned above: if the mind, in its simple act of unification forms this perception of 'the whole', then it must be able to do so only by virtue of the fact that there was a 'multiplicity' for it to unify. If we extend this further, providing that the moment we analyse this composite and including the fact that mathematics, in utilizing *provisional* units, allows for these units to be subdivided without limit, then the question returns us to the fact that we could not even conceive of a 'unity' made up of fractions if we did not implicitly regard it as an extended object, as Bergson puts it, as 'one in intuition but multiple in space'. And to remind us where we are going with this argument, we will rely on one of Bergson's many seemingly curious passages: 'You will never get out of an idea which you have formed anything which you have not put into it; and if the unity by means of which you make up your number is the unity of an act and not of an object, no effort of analysis will bring out of it anything but unity pure and simple.'[12]

We will further examine this distinction before going on to other aspects of this argument. If we wish to conceive of the 'whole', this provisional unity, as an indivisible act (and staying with the argument of numeric distinctions) we will find that this conception, thus represented to us by the naming of a unity (3 for instance) is also symbolized in the form of a mathematical point, separated from the following point by an *interval* in space. Bergson contends:

We must distinguish between the unity which we think of and the unity which we set up as an object after having thought of it, as also between number in process of formation and number once formed. The unit is irreducible while we are thinking it and number is discontinuous while we are building it up; but, as soon as we consider number in its finished state, we objectify it, and it then appears to be divisible to an unlimited extent. In fact, we apply the term subjective to what seems to be completely and adequately known, and the term objective to what is known in such a way that a constantly increasing number of new impressions could be substituted for the idea which we actually have of it.[13]

It is necessary to introduce the critical distinction between what will come to be referred to as 'virtual', 'actual' and 'realized'. As previously mentioned, the general appearance of an object (here Bergson uses the term 'body') as analysed in thought will not yield anything more than what is already visible in the mental image which we have formed of it.[14] Yet the 'actual' perception of subdivisions in what is undivided, as we have just seen, is precisely what is referred to as 'objective'. That which properly belongs to the mind (in the argument on numeric conception) is the 'indivisible process by which it has the capacity to concentrate attention successively on different parts of a given space'.[15] However, this 'successive concentration' operates as an extended form of perception, thus it spreads itself out in space, space then becomes the very 'material' with which the mind builds up the idea of number, and thus applies this conceptualization of the spatialized numeric within the very heart of thinking the divisible and the indivisible, the unit and the unity.

It is important to remember that duration (as well as *continuous multiplicity*) is not simply the indivisible, nor is it the non-measurable. Duration has its distinction from space in that within the process of change, duration divides only by changing in kind as opposed to degree. It is not that it defies all notions of measurability; it is just that it must vary its metric principle at each moment of division. Further, with this we can include the Bergsonian proposition regarding space whereby he argues simply that things are not in space, but rather it is space that is in things. In other words, we must not conceive of space as an abstract field upon which things are spread out (Cartesian space); but we must understand that it is by virtue of the fact that things themselves have extension, that space as such necessarily follows from such extensity, that space is in fact in things. Keith Ansell-Pearson reformulates this proposition, writing:

It is necessary to give an account of our categories of being and spatial habits of representation, to show how they are part of human evolutionary existence; space, for example, is a schema of matter which represents the limit of a movement of expansion that would come to an end as an external envelope of all possible extensions. In this sense it is inadequate to say matter and extensity are "in" space, it is rather the other way round.'[16]

To reiterate, we have seen that there are 'two types of multiplicity' in Bergson. One, the *discrete,* by which we speak of material objects which are localized in space and to which the concept of number immediately applies; and the other, the *continuous,* which refers to states of consciousness, and cannot be regarded as numeric unless given symbolic representation which subsequently also places them in space. (Deleuze will rename these, as well as further extend their theoretical reach, under the terms of 'actual and virtual multiplicities').[17] Before giving an example of a

continuous multiplicity we'll follow one step further in the development of Bergson's argument in order to bring forward a pertinent distinction when thinking through the notion of the virtual in its contemporary form.

On Subject and Object

We make a distinction between these two types of multiplicity when we discuss the impenetrability of matter, whereby 'we sometimes set up impenetrability as a fundamental property of bodies, known in the same way and put on the same level as (for example) weight or resistance.'[18] Suggesting that when we try to picture one body penetrating another we must assume an 'empty space' in which particles can fill this space, merging into the interstitial voids left by the one and/or the other. In fact, our thoughts can prolong this process indefinitely in preference to picturing two bodies occupying the 'same place' at the 'same time'. But if impenetrability is an actual quality of matter, 'there is no clear reason why we should experience more difficulty in conceiving two bodies merging into one another than a surface devoid of resistance or a weightless fluid. But, in reality, it is not a physical but a logical necessity which attaches to the proposition: "Two bodies cannot occupy the same place at the same time"'.[19] Reiterating the above, the point is that an assertion which insists on the impenetrability of matter does so due to the fact that notions of number and space have been inextricably linked. So much so that in stating the properties of matter, we are reducing these properties to only those that exist properly as properties of number.

Alternatively, when it comes to feelings, sensations and ideas, we can readily accept the notion of permeability. The permeability of feelings, of continuous and concrete multiplicities, can be easily grasped when we think, for instance, of music. Although a musical composition can be symbolically represented – laid out within the 'discrete' spatial frame of the score, as well as played by virtue of units measured in a precisely spatialized time; the experience of listening to, for example, an aria cannot be reduced to numeric measure. Bergson uses the example of a chiming clock to press this point even further, for although with each strike of the chime we know that one note ends and another begins, they persist within our conscious perception, they prolong each other in a time proper only to concrete duration. Even if we attempt to quantify this 'experience of permeability' and argue that a note can be played staccato and thus distinguishable from the note which follows or precedes it, this does not change our conscious perception of this note which endures throughout the composition as we cannot retain the experience of the music if we extend the intervals between the notes to the point at which their relation to the composition no longer retains its 'unity'.

Science, Bergson argues, 'works exclusively with measurements, and the measuring of time consists in counting simultaneities'.[20] In dealing with time the concern of physics is with the extremities of time and the illusion is generated that the extremities of an interval are identical with the interval itself. What takes place in the interval – an actual duration – is neglected and lost sight of, and this means that the counting of simultaneities can only take the form of a counting of instants. Bergson goes further, arguing that it does not matter at what speed time runs, if the number of extremities is indefinitely increased, or if the intervals are indefinitely narrowed, these changes would have no great impact on the calculations of time carried out by the physicist:

The speed of unfolding of this external, mathematical time might become infinite, all the past, present, and future states of the universe might be found experienced at a stroke; in place of the unfolding there might be only the unfolded. The motion representative of time would then have become a line; to each of the divisions of this line there would correspond the same portion of the unfolded universe that corresponded to it before the unfolding universe; nothing would have change in the eyes of science.[21]

Of course, our own experience, our own perception of this change in speed would be immediately recognized in consciousness.

The mind is capable of conceiving a succession without distinctions, thinking of it as a 'mutual penetration, an interconnexion and organization of elements, each one of which represents the whole, and cannot be distinguished or isolated from it except by abstract thought.'[22] However, the problem for thought seems almost overwhelming, Duration is nonrepresentational and just as we *think* it, so too it becomes spatialized. The composite of space and duration in which we act, in which we actuate (or presence) our memories into perceptions, is given to us by experience, not merely 'lived' experience, or 'immediacy'; but the very condition of experience. Duration is experience, but equally it is experience enlarged and gone beyond. For Bergson questions of experience go not merely to the state of experience but the very nature of the condition of experience. A condition which can only be reached, as Bergson argues, beyond the turn, where we engage with our will not the simple effects of action but the pure affect of all action (both virtual and real).[23] Ansell-Pearson similarly writes: 'the human condition refers not to an existential predicament but to accrued evolutionary habits of thought and patterns of action which prevent us from recognizing our own creative conditions of existence and which restrict the domain of praxis to that of social utility.'[24]

Walter Benjamin, in a passage 'The Work of Art in the Age of Mechanical Reproduction' writes: 'during long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well.' Benjamin is referring to technological advancements as having the power to alter the very mode of human experience and subsequently the nature of human perception. Bergson, foreshadowing Benjamin, also asks: 'If, in order to count states of consciousness, we have to represent them symbolically in space, is it not likely that this symbolical representation will alter the normal conditions of inner perception?' He continues: 'in the same way, our projection of our psychic states into space in order to form a discrete multiplicity is likely to influence these states themselves and to give them in reflective consciousness a new form, which immediate perception did not attribute to them'.[25] On this account, if we wish to separate our feelings and sensations, our ideas, it is necessary to count them, to reduce them to number and represent them symbolically in space, as homogeneous units occupying separate positions in space and therefore no longer permeate one another. In other words, in order to continue this false problem which confuses quantity with quality, we continue to apply to our experience of time (*durée*) the notion of succession, thus discrete and discontinuous (extensive and homogeneous) sections. We thus spatialize our experience of time as simultaneity. And it is this conflation of time and space that prevents us from understanding the condition of the subject/object categories as delimited on the plane, within the multiplicities and singularities of what has come to be simply referred to as the virtual.

In closing we would like to offer a beautiful example of a *continuous* (Bergson) and *virtual* (Deleuze) multiplicity. In the late 1920s William Faulkner captured a sympathy with the virtual multiplicity, actualized not as event (pure reserve in Deleuze), but as memory *and* matter, involving a virtual image as both pure space and pure time.[26] Faulkner, in his novel *Light in August*, tells the story of Lena, a child of the depression, uneducated, unemployed, orphaned at twelve, pregnant and searching for the father of her unborn child. This is the story of a journey in search of a memory, for once, not so long ago, 'he said he would send for me'. Lena, waiting upon a dusty red ribbon road for a weary ride, and once riding, approaching a town where she believes she will find her child's father, Lucas Birch, these are the lines Faulkner writes:

So that at last, as though out of some trivial and unimportant region beyond even distance, the sound (of the wagon) seems to come slow and terrific and without meaning, as though it were a ghost traveling a half mile ahead of its own shape. "That far within my hearing before my seeing", Lena thinks. She thinks of herself as

already moving, riding again, thinking, "Then it will be as if I were riding for a half mile before I even got into the wagon, before the wagon even got to where I was waiting, and that when the wagon is empty of me again it will go on for a half mile with me still in it".

She waits, thinking, "I will be riding within the hearing of Lucas Burch before his seeing. He will hear the wagon, but he wont [sic] know. So there will be one within his hearing before his seeing and there will be two within his seeing before his remembering".[27]

Perhaps in thinking through the questions of the divisible and the indivisible we might also ask what is within the hearing before the seeing, what is within the seeing before the remembering as it might direct us towards another understanding that refuses to conflate the part and the whole, unit and unity; and, ultimately, decompose so that it can properly recompose the most critical of composites which we refer to as time and space.

A extended version of this text has appeared under the title '"like already measures thread rewound upon a spool": (an)notation on Bergson's two forms of multiplicity', in *De-/signing the Urban : Technogenesis and the Urban Image*, ed. Patrick Healy and Gerhard Bruyns (Rotterdam: 010 Publishers, 2006).

Notes

1   Deleuze, *Bergsonism*, 38.
2   Bergson, *Time and Free Will*.
3   Ibid., 42.
4   Ibid., 73.
5   Bergson, *Matter and Memory*, 184–85.
    Bergson writes: 'to seek experience at its source … in what concerns the perception of our inner life, consisted in a sort of refracting of pure duration into space, a refracting which permits us to separate our psychical states, to reduce them to a more and more impersonal form, and to impose names upon them – in short, to make them enter the current of social life.'
6   Bergson, *Matter and Memory*, 71.
    Here he articulates this relation succinctly, writing, 'questions relating to subject and object, to their distinction and their union, should be put in terms of time rather than space.'
7   Bergson, *Time and Free Will*, 75.
8   Ibid., 77.
9   Ibid., 121.
10   Ibid., 106.
11   Ibid., 80.
12   Ibid., 81.
13   Ibid., 83–84
    The final sentence in this passage, correlating the subjective with the knowable and the fixed, and the objective with the contingent and the fleeting, is at the heart of all of Bergson's thought.
14   Bergson elaborates this concept in his later works as well. For instance, in thinking on the notion of 'image as matter' in *Matter and Memory*.
15   Bergson, *Time and Free Will*, 84.
16   Ansell Pearson, *Philosophy and the Adventure of the Virtual*, 11.

17 Deleuze suggests that Bergson takes this distinction form his reading of the mathematician G. B. Riemann. Ansell Pearson further elaborates the basis of Riemannian theory in *Philosophy and the Adventure of the Virtual*, 15–16.

18 Bergson, *Time and Free Will*, 88.

19 Ibid., 88–89.

20 Henri Bergson, *Duration and Simultaneity*, trans. Leon Jacobson (Manchester: Clinamen Press, 1999 [1922]), 40.

21 Ibid., 41.

22 Ibid., 101.

23 This issue is elaborated in Bergson's *Matter and Memory*. See also: Deborah Hauptmann, 'Interval & Image in the Embodiment of Memory: On Henri Bergson's Matter and Memory', *OASE* no. 58 (2002): 97–109.

24 Ansell Pearson, *Philosophy and the Adventure of the Virtual*, 9–10.

25 Bergson, *Time and Free Will*, 90 (my emphasis).

26 In *Time and Free Will*, Bergson explores the aesthetic feeling grace in terms of sympathy, writing: 'A kind of physical sympathy enters into the feeling of grace … But the truth is that in anything which we call very graceful we imagine ourselves able to detect, besides the lightness which is a sign of mobility, some suggestion of a possible movement towards ourselves, of a virtual and even nascent sympathy. It is this mobile sympathy, always ready to offer itself, which is just the essence of higher grace.' (p. 13).

27 William Faulkner, *Light in August*, (New York): Random House, 1990 [1932]), 8–9 (emphasis in original).

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Afterword

Deleuze's observation in *Cinema 2: The Time-Image* that 'the people are missing', was based on his reflection that film-makers in (Western) modern cinema achieved the greatest politically focused films not through the presence of people, but through their absence. In other words, because they know how to show what is not there, how 'the people are missing'. By this we understand the hope that modern political cinema had the potential to invent a new subject (from the subjugation of the masses in the first half of the twentieth century). This is a complex idea developed around the triad of 'consciousness, evolution, revolution', both political and aesthetic. It is a schema that challenges the boundary between the public and the private – both physically constructed and socially perceived space. Architecture has been presented in this volume by a similar absence. In other words, the architecture is missing. And yet, it is this absence that is present in every thought that has motivated these texts. Said otherwise, an awareness that the people are missing from architecture critique acts as a substrate to these writings. Perhaps we, too, need to invent a new subject; certainly, it is necessary to consider the ethical and societal impacts of emerging technologies and their effect on the built environment and equally, with Benjamin, on 'humanity's entire mode of existence'.

Considering the city as a process of dynamic emergence, both material and immaterial, is the underlying theory that holds the first three chapters together. Live Space speaks to the notions of labour, emerging as a critical issue in the discipline through critiques of both the practice and the products of architecture in and in response to our current neo-liberal society. Cosmopolitan View offers neither a prescriptive nor speculative view of the city, but instead asks us to examine the framework and the categories in which we identify those who may or may not be accepted or allowed to inhabit our cities. We might consider such issues of particular import in our contemporary world exhibiting a regression to nationalism and thus the tribalism of the 'us versus them'; or the 'other' as both the subject and the subjugated of empire building. Lefebvre and the concept of the virtual allowed for rich engagement with two philosophers on issues related directly to the transformations in our notions of the urban as well as concepts addressing ideas of differentiation, change, spaces of flow, and actual and virtual multiplicities, as well as assemblages of power, forces of form, and the administration of bodies both individual and collective. These are issues of the socius, of the spatio-political body we call the urban, and by virtue of this – architecture.

With Benjamin and Bergson, the 'problem of experience' was approached through memory and thus one's relation to world. The city as the site of estrangement, technology as the apparatus of alienation. The ability, or lack thereof, to find oneself reflected in the space and time of one's own occupation. Matters addressed at the turn of the last century remain reflected in our current time. This was the moment of modernity in which Deleuze's above critique of film – the people are missing – begins. 'Of all the experiences that made his life what it was, Baudelaire singled out his having been jostled by the crowd as the decisive, unique experience.' The body as conscious experience, not only consciousness as a mental state, but as the last line, the last site of resistance. This was a moment that asked for a new people to emerge. So, too, today. From biopolitics to noopolitics we move from the proximate action of being jostled by the crowd, to the 'action at a distance of one mind on another, through the brain's power to affect and become affected … mediated and enriched by technology.'

There are issues raised in the final chapter that should give any rational being a moment of pause if not shock at the realization of its implications. What has motivated me most in pursing this theoretical trajectory is that research in the neurosciences now supports the proposition that culture, society and environment transform us at the level of our central nervous system, our neurological architecture. And in an environment where culture is constantly changing, so too must the mind that must fathom its new rubric. Given that the environment in which we live alters, affects and transforms brain and society – or the socius (Deleuze's concept of the social body that takes credit for production) – architects, as producers of culture and environment, must begin to understand architecture's direct potential to transform our fundamental relation to world. This is a vision of architecture, as Brian Massumi writes, 'as constructing the environment that triggers the changes that issue new forms of experience' and, as architects and urbanist develop further with these technologies, 'what they are really designing are possibilities of experience'.

Of course, we do not yet know exactly how this will advance our understanding of perception, memory, and sensation, or our experience of time of space. What is apparent however is that the most crucial questions, in light of the technological developments of the day, cannot be asked from within any single discipline. This expanding discourse in my own work is what I refer to here as the double progression of body and brain.

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TOC

Architecture and the Time of Space

The Double Progression of Body and Brain

Deborah Hauptmann

In this work Deborah Hauptmann deals with the relationships between mind, body, architecture and the city. Major authors ranging from Henri Bergson and Walter Benjamin to Henri Lefebvre and Gilles Deleuze are discussed in order to open up thinking on the roles of perception and the cognitive sciences in today's society. Various themes are explored. Matter and mind are considered as kinds of multiplicities that affect our distinctions between subject and object. A theoretical framework is carefully constructed and argued in detail, allowing us to grapple with the existing problems of a rapidly changing field of disciplinary actions. The author looks at how vitalism has been applied to space, offers a view of the city through the question of who is allowed to claim right to the city and addresses the idea of the virtual and emergent. She examines the problem of experience by posing questions pertaining to both voluntary and involuntary memory. She concludes by making concepts surrounding biopolitics and noopolitics explicit and investigates their past discourses, demonstrating that they are still pertinent to both the field of architecture and philosophy.

This study should be regarded as an original contribution to the discipline of architecture in its broadest sense.

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