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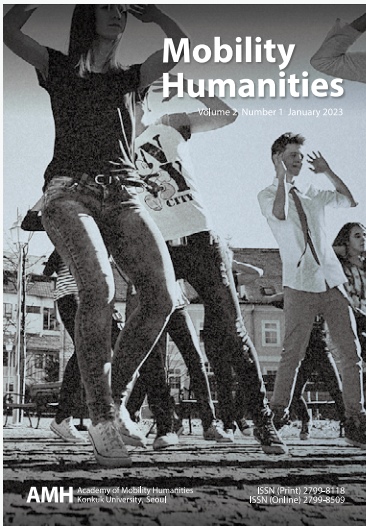
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SPECIAL ISSUE**Mobility/Fixity:
Rethinking Binaries in Mobility Studies****Peter Merriman**

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Abstract

In this paper, I outline some of the different conceptual approaches to mobility and immobility/fixity that have emerged in mobility studies over the past few decades, connecting this work to broader philosophical and methodological debates in the humanities and social sciences. I discuss writings which have distinguished between mobility and moorings, mobility and motility, and nomadic and sedentary metaphysics, before focussing upon studies which either approach mobility-fixity as a continuum, or highlight the many qualities, events and experiences which traverse or cut across this binary. In the final section I outline Gilles Deleuze and Félix Guattari's theoretical approach to movement, affect and becoming, in which they distinguish between molar and molecular becomings and movements. By adopting a processual and non-representational approach to mobility and stasis I argue that the problem is not one of understanding when and why things move or are still, but of tracing when and how movements become perceptible and imperceptible.

Keywords

Movement, Stasis, Post-structuralism, Process, Humanities, Ontology

Introduction

At the heart of much work on mobility in the humanities and social sciences lies the relationship between mobility and fixity, or mobility and immobility. Sometimes, they are conceived as two different ontological states. At other times, they have been approached as an ontogenetic continuum or qualitative field in which there are an innumerable number of ontological becomings reflecting different speeds, qualities of, and potentials for, movement and stasis. In this paper I outline some of the different conceptual approaches to mobility and immobility/fixity that have emerged in mobility studies, connecting this work to broader philosophical debates in the humanities and social sciences. I argue that behind these different approaches lie an important set of questions that are rarely asked, namely: the question of what movement and mobility actually are; how movement is registered and experienced; what and who enacts movement (and changes in movement); what approaches to power are assumed; and how do we represent, identify, delineate and research movement and mobility.

It will clearly not be possible for me to address all of these points and questions in full. Indeed, my main concern is simply to “pose” these questions, in part because many mobility scholars do not consider these broader ontological points, being too consumed by “real-world” empirical problems to question the underlying binaries which many Western academics and citizens take for granted. In contrast, I argue that binary approaches to mobility and fixity overlook the many ways in which mobile bodies are continually becoming perceptible and imperceptible, and are rendered mobile and still. I argue that a focus on molar and molecular mobilities and materialities can force us to acknowledge the plural or multiple existence of entities and events for different subjects, such that bodies may be simultaneously experienced and apprehended as mobile and still. I argue that processual, relational, non-representational and post-structuralist thinking has the potential to unsettle and undermine long-standing Western assumptions about singular acts and moments of moving-and-being-in-and-with-the-world. This is particularly the case for the emerging field of mobility humanities, which is less tethered to the epistemological and methodological traditions of the social sciences—in particular their “notion of bringing back the ‘data’” (Thrift, “Introduction” 3)—and has the potential to facilitate a broad range of more experimental studies and open-ended methods for apprehending people’s practices and experiences of movement and mobility (Merriman, “Rethinking”; Vannini).

In section two I start by tracing a genealogy of a series of binaries which have preoccupied many mobility scholars, ranging from a distinction between sedentary metaphysics and nomadic metaphysics, to binaries of mobility/fixity and mobility/moorings. I discuss the emergence of approaches which have attempted to cut across such binaries, before

outlining, in section three, different theoretical approaches to agency, action and motive force, including processual approaches, vibrant materialities, Newtonian accounts, sociological accounts of motility, Manning's writings on "pre-acceleration" and "incipient movement," and Cresswell and Martin's writings on "turbulent mobilities." In section four, I outline an alternative approach to movement which distinguishes between "molar" and "molecular" mobilities, drawing upon Deleuze and Guattari's thinking to outline how perceptible molar movements are continually traversed and undermined by molecular affects and micro-political movements.

Towards a Genealogy of a Binary

Threading through the amorphous and emergent multi-disciplinary field of mobility studies have been a series of assumptions, arguments and debates about the dialectical or binary relationship between mobility and fixity (see Adey, "Fluidity-Fixity"; Merriman, *Mobility, Space and Culture*). This has ranged from scholars who insist that the mobility/fixity distinction is a practical and useful one that underpins our everyday lives, to thinkers who attempt to deny or dismantle the binary by emphasising how it is a Western social and political construction, and is breached or traversed in important theoretical approaches and empirical realities (cf. Latour). Of course, such a polar positioning of thinkers who are either for or against this distinction is itself a rather crude binary characterisation of what are often complex and shifting positions. To avoid presenting debates as if they are a battle between two teams, I want to outline a few of the common refrains that have gathered around concepts like mobility, fluidity, fixity, stillness, moorings, and motility in the social sciences and humanities, before making a few suggestions about a way forward.

An important characterisation of the binary in recent studies was first hinted at by the anthropologist Liisa Malkki in 1992 and "formalised" by the geographer Tim Cresswell in 2001 and 2006 (Malkki; Cresswell, "The Production" and *On the Move*). Drawing upon Malkki's work, Cresswell stressed that there are "two principal metaphysical ways of viewing the world: a *sedentarist metaphysics* and a *nomadic metaphysics*"—both of which "revolves around [different] understandings of mobility, spatial order, and place"—although he adds that "these ways of thinking . . . form ends of a continuum and rarely exist in pure form (Cresswell, *On the Move* 26). "Sedentarist metaphysics" (Malkki) is seen to underpin the territorial spatial imaginations of many contemporary capitalist societies, economies and political regimes built around private property rights and an assumption that people have a fixed address, and in this worldview, mobility is generally seen to be an exception, a by-product of practices in places, and justified by what happens at either a departure or arrival point. This "sedentarist metaphysics" is informed by a "pointillist" imagination of spaces and places as fixed points or static bounded areas (Doel; Adey, "Fluidity-Fixity"). In contrast, for Cresswell, a "nomadic metaphysics" puts "mobility first, has little time for notions

of attachment to place, and revels in notions of flow, flux, and dynamism" (*On the Move* 26). As a general term, it could be applied to a large number of peoples and cultures whose ontologies and spatial practices are not grounded in sedentary and pointillist Western territorial values, ranging from Aboriginal tribes such as the Walpiri (Munn), to the Ongee hunter-gatherers in the Andaman Islands (Pandya) and gypsy-travellers in the UK (Sibley). The problem is that although anthropological studies of non-Western societies have revealed how some cultural groups hold beliefs that are underpinned by processual, mobile, nomadic or path-based ontologies, the most famous work which delineates nomadology and the difference between "sedentary space" and "nomad space" is not an in-depth ethnography but a prominent book of post-structuralist philosophy, *A Thousand Plateaus*, by two white male French philosophers, Gilles Deleuze and Félix Guattari (381).

For many scholars interpreting Deleuze and Guattari's writings, cultural differences get effaced or erased in the figuration of two different categories of subject, ontology and space—sedentary and nomad—even if there are territorialising or deterritorialising tendencies and lines which ensure these ontologies are in constant becoming (or "ontogenesis")—becoming-sedentary, becoming-nomad (see Cresswell, "Imagining the Nomad"). Deleuze and Guattari's figure of the nomad caught the imaginations of a broad array of thinkers in the late 1980s and early 1990s, ranging from cultural theorists such as Iain Chambers to post-structuralist feminists such as Rosi Braidotti (e.g., Chambers; Braidotti). But their figuration of the nomad also drew criticism from feminist scholars, postcolonial critics and geographers for whom they had constructed a rather romanticised, generic, ahistorical and "remarkably unsocial being—unmarked by traces of class, gender, ethnicity, sexuality and geography" (Cresswell, "Imagining the Nomad" 377; Kaplan; Sutherland; Engebriksen).

There is no doubt that the wholesale embrace of mobile figures such as the nomad, migrant, tourist, and flâneur by theorists was often problematic (see Adey, *Mobility*), but Deleuze and Guattari's discussion in *A Thousand Plateaus* is also important for their embrace of a more ancient processual philosophy of incessant movement and change which is seemingly blind to the binary mobility/fixity. Deleuze and Guattari approach this tradition through a range of sources—including Spinoza's *Ethics*, Bergson's vitalist philosophy, Simondon's writings on ontogenesis (Simondon), and Michel Serres' account of Democritean and Lucretian physics in *The Birth of Physics* (Serres)—and their genealogy of processual philosophies of becoming has been picked up by a number of mobility theorists seeking to explore the complexities, practical utilities and problematics of the mobility/fixity binary. This includes Peter Adey's early account of relational and non-representational approaches to mobility and immobility, Thomas Nail's extensive genealogies of philosophies of motion, and Cresswell and Martin's account of "turbulent mobilities," as well as my own provocative attempts to expose the binary as a "convenient" Western ontological categorisation which is frequently used to justify exclusionary political practices aimed at certain groups.¹

1 See Adey, "If Mobility Is Everything"; Nail, "The Ontology of Motion," *Being and Motion*, and "What Is the Philosophy of Movement?"; Cresswell and Martin, "On Turbulence"; Merriman, "Human Geography without Time-Space," *Mobility, Space, and Culture*, "Unpicking Space-Time," and "Molar and Molecular Mobilities."

As with other mobility theorists, such as Peter Adey and David Bissell, I have been heavily influenced by a strand of post-structuralist geography known as “non-representational theory” or “non-representational theories,” which Nigel Thrift has described as “a theory of mobile practices” (Thrift, “Non-Representational Theory” 556). Indeed, it is from this tradition of thinking that one of the most commonly quoted examples of incessant and all-pervasive movement is taken, namely geographer J.D. Dewsbury’s Deleuzian-Spinozan example of a building that is in constant flux, movement, and becoming:

It is all a question of speeds and slowness, of relations of movement and rest . . . This is Deleuze’s Spinoza: one substance for all attributes such that there is one nature, itself individual, varying in unlimited ways . . . Take, for example, the building you walk through/within—what is the speed of flux that is keeping it assembled? It seems permanent, less ephemeral than you, but it is ephemeral nonetheless: whilst you are there it is falling down, it is just happening very slowly (hopefully). In such a world, that is incessantly bifurcating and resonating amongst the different movements of its many compositions, our subjectification is always occurring. (Dewsbury 487)

While Adey and Bissell have both quoted elements of this passage in order to challenge simplistic binaries of mobility and stasis, Cresswell inserts Dewsbury’s account into the binary of sedentary/nomadic metaphysics, associating his arguments with nomadic perspectives which tend to be “overly abstract and universalising” (Cresswell, *On the Move* 54). Cresswell’s overarching concern seems to be that processual accounts overlook the differential politics of mobility and immobility, including the varying capacity of individuals and groups to act and mobilise or immobilise themselves, others and a broad range of things. It is true that Dewsbury fails to explicitly discuss some of the political practices that can get caught up in these affective regimes, but for me it is also telling that Cresswell (*On the Move*) does not quote the opening lines of Dewsbury’s paragraph above, particularly where he repeats Deleuze’s assertion that affective relations and movements are differentiated by speed and slowness (Deleuze and Guattari 256; cf. Deleuze). Indeed, in response to Cresswell’s critical remarks, I have suggested that to argue that the world is in constant movement and flux, or underpinned by “vibrant materialities” (Bennett, *Vibrant Matter*) of different kinds, is not to argue that molecular movements, vibrations and affects are linear, uniform or uncontrolled (Merriman, “Mobilities II” and “Molar and Molecular Mobilities”).²

A second important discussion of the mobility/fixity binary emerges in the distinction between “mobilities” and “moorings” which John Urry (49) took from a reading of Henri Lefebvre’s *The Production of Space* (403). Writing in his book *Global Complexity*, Urry seeks to show how complex social systems are characterised by high levels of “both” mobility “and” immobility, with high-speed air travel, car travel or digital data transfer requiring spatially fixed infrastructures such as airports, paved roads, fuel stations, and networks of fibre-optic cables (Urry 125). His conclusion is that “the complex character of such systems stems from

² As I discuss below, Cresswell would go on to engage more positively with processual and non-representational approaches to movement, most notably in his writings with Craig Martin on “turbulent mobilities” (Cresswell and Martin).

the multiple time-space fixities or moorings that enable the fluidities of liquid modernity to be realized" (Urry 125), and these two polar states are very clearly positioned in an opposed (if complexly entangled) dialectical relationship:

It is the dialectic of mobility/moorings that produces social complexity. If all relationality were mobile or 'liquid', then there would be no complexity. Complexity, I suggest, stems from this dialectic of mobility and moorings. (Urry 126)

The distinction is, of course, a convenient one, hinting at the necessity of stepping back from over-enthusiastic accounts that announce the uniform acceleration of movements and world events. Urry's argument echoes the conclusions of several generations of historians of mobility and technology who have traced developments in infrastructures in parallel with new embodied mobile practices and experiences (e.g., Schivelbusch; Merriman, *Driving Spaces*). However, Urry is in danger of presenting a rather too simplistic binary in which people, commodities, messages, and vehicles are seen as mobile, dynamic and active, and infrastructures are figured as static and immobile. As Peter Adey once remarked in response to Urry's formulation, "immobilities or moorings" can be seen as "mobile too," and there is a need to examine how "mobilities and immobilities or mobility and moorings slip out of phase, moorings becoming mobilities and mobilities becoming moorings" ("If Mobility is Everything" 86-87). This dynamic understanding of mobility spaces and environments is also confirmed by a broad range of historical, sociological and archaeological studies of how mobility infrastructures are variously maintained, refashioned, experienced and valued over time (e.g., Graham and Thrift; Merriman, "Archaeologies"; Penrose; Gray).

One of the most powerful sets of challenges to simplistic constructions of a mobility/fixity or mobility/moorings dialectic can be seen in the writings of David Bissell. In their introduction to *Stillness in a Mobile World*, Bissell and Fuller provide a powerful account of the philosophical, social and political importance of plural ontologies of "volatile stillness" which "are not necessarily reducible to the dialectic of mobility and immobility" (8, 6). Meanwhile, in a 2010 paper in the journal *Area*, Bissell draws upon detailed auto-ethnographic and participatory research on rail travel in Britain to show how a consideration of "vibrations" as "events" can facilitate a dynamic and non-dualistic approach to the material relations between "bodies, technologies and mobilities" (480). The repetitive, rhythmic vibrations of rail travel "have the capacity to cut across and through different materialities" and undermine any clear distinction between mobile subjects, transporting vehicle, and "moored" infrastructure (Bissell 481).

Bissell's reflections alert us to the many and varied movements, forces and affects which traverse bodies of different kinds, problematising overly simplistic approaches which focus only on bounded and black-boxed material entities. Indeed, if we examine how people in different societies socialise and move with other beings and traverse spaces—becoming intricately entangled with bodies of different kinds—we can reveal the very different

cultural practices that became involved in the establishment and disestablishment of relations, connections, boundaries and territories (Bennett, "Systems and Things"; Strathern, *Relations*). Social networks are not simply formed differently in particular cultures, but practices of cutting networks, stilling and mobilising vary (Strathern, "Cutting the Network"), raising important questions about how we perceive, apprehend and represent movement, stillness, materiality, bodies and boundaries.

Enacting Mobilities: Materialities, Force and Politics

To recount, a number of mobility theorists have challenged constructions of a simple mobility/fixity or mobility/moorings binary, highlighting the different rhythms, forces, movements and affects which are apprehended by—and appear to relate or traverse—bodies of different kinds. Underpinning this work are a set of philosophies of movement and mobility that are quite different in their approach to the physical forces and powers entailed in the propulsion or constraining of mobile bodies. At first glance, it would appear easy to dismiss them as apolitical atomist or vitalist fantasies based upon crude and antiquated scientific and philosophical ideas that are rejected by Western scientists and critical theorists. In her book *Vibrant Matter*, the political theorist Jane Bennett does indeed admit that she finds "Epicureanism to be too simple in its imagery of individual atoms falling and swerving in the void" (xi), but she and others do see strong parallels between the non-binary, dynamic and processual worlds that are figured in Lucretian physics, and the complex, self-organising and non-linear systems conceived by complexity theorists such as Ilya Prigogine and Isabelle Stengers (Prigogine and Stengers, "Postface" and *Order Out of Chaos*; Serres, *Hermes* and *The Birth of Physics*; Bennett, *Vibrant Matter*). The problem is that such conceptual approaches do not seem to accord with Western everyday embodied perceptions and apprehensions of movement, space, action, and materiality, which is one reason why object-oriented philosophers such as Graham Harman and Timothy Morton have challenged processual and relational thinking (see Bennett, "Systems and Things"). These everyday Western concepts appear to have changed very little since the 18th century, being informed by what Čapek has termed a "Newtonian-Euclidean subconscious" which he feels "lie deep in the phylogenetic heritage of man" (xv). While I would not affirm Čapek's rather ethnocentric, genetically-determinist justification of the dominance of certain ontologies of space and movement, I agree that the key tenets of Newton's natural philosophy and physics of perceptible meso-scale movements over space and time have come to underpin many approaches to movement and mobility in the social sciences and humanities, as well as our everyday lives (see Merriman, *Space*). Why? Well, in part because 18th century physical theories easily correspond with embodied human perceptions of physical properties; even though 20th century physicists have argued that "classical modes of thought are applicable only to what [Hans] Reichenbach called 'the zone of the middle dimensions,' situated between the world of galaxies and the microcosm, while they fail

utterly outside its limits” (Čapek xiii-xiv).

These somewhat abstract, interrelated concepts of space, time and motion are discussed by Cresswell in *On the Move*, although a detailed examination of Cartesian and Newtonian physical theories is passed over in favour of brief references to Kant and Marx. Nevertheless, Cresswell opens a section called “Movement, Time and Space” with a discussion of these traditions of scholarship:

Movement is made up of time and space. It is the spatialization of time and temporalization of space. Any consideration of movement (and mobility) that does not take time and space into account is missing an important facet. Time and space, as Kant reminded us, are the fundamental axes around which life revolves—the most basic forms of classification. Certainly any material object has to have coordinates in time and space. Movement, as the displacement of an object from A to B, involves a passage of time and, simultaneously, a traversal of space. (4)

This opening discussion could easily have appeared in a work of positivist spatial science or a basic philosophy of physics, but Cresswell quickly and deliberately moves on from such abstract, foundational conceptions of absolute movement, time and space to argue that “the notion of mobility” he “want[s] to propose . . . [is] a thoroughly social facet of life imbued with meaning and power” and “is composed of elements of social time and social space” (*On the Move* 4). Drawing upon the arguments of Henri Lefebvre about the social and political “production of space,” Cresswell argues that abstract notions of movement, time and space are themselves “social production[s],” and he asserts that his approach treats mobility as “a social product” that exists in “a meaningful world of social space and social time” (5).

Cresswell’s simple yet important reframing of mobility has been highly influential, but I want to question the necessary positioning of social mobility in relation to “social space and social time,” as if they have an essential relationship in the way that Galileo and later Newton identified the functional relationship between distance, speed and time. The danger is that social science and humanities scholars unproblematically reify and affirm certain metric properties or functional relations without applying the same critical insight that they often apply to social relations and actions. What is more, meaningful and power-laden movements are in danger of appearing as superficial representations or experiences that are superstructural to physical base actions and movements, whereas they “must” be seen as productive and forceful actions which may or may not become perceptible as and enacted in physical movements of various kinds.

A number of other humanities and social science approaches focus on this “potential” for movement, without relying upon physics-based theories of motion or potential energy. One approach is associated with the writings of the Swiss sociologist Vincent Kaufmann, who rather than focus on the mobility/stasis binary, focuses his attention on the distinction between “actual” mobility and “potential” mobility, or what he calls “mobility” and “motility” (Kaufmann; Kaufmann et al.). Across a number of publications, Kaufmann has argued

that while many scholars focus on past and present mobilities, they often fail to recognise inequalities in mobility and the different degrees of “motility” or “speed potential” of actors or agents (Kaufmann 1). This differential capacity to be mobile—which is “a form of [mobility] capital” (Kaufmann et al. 752)—is seen as a key determinant that not only shapes patterns of actual physical and social mobility, but also structures our social lives, and what emerges is effectively a social science equivalent of the distinction between kinetic energy (evident through actual physical mobility) and potential energy (potential mobility, or motility). Underpinning Kaufmann’s account is a fairly standard realist and structuralist ontology focussed upon social agents, structures and actions, and for me his account presents a rather too simplistic and deterministic model of social causes and effects, leaving little room for the vibrant materialism and molecular mobilities that I discuss in the final section of this paper.

An alternative approach is presented by the post-structuralist philosopher, movement theorist and artist Erin Manning in her book *Relationescapes*. Manning draws upon the relational thinking of Deleuze, and an insistence that there are no beginnings, ends, boundaries or stasis, to focus on the incessant movements and incipient actions which she sees as underpinning all life and things. In her view, movement is primary, but she differentiates between visible, molar, physical movements “and” potential movements, although these should not be approached as a binary, as these two interrelated states are always becoming:

The movement within becomes a movement without, not internal-external, but folding and bridging in an intensity of preacceleration. This means you are never stopped. To move is to engage the potential inherent in the preacceleration that embodies you. Preaccelerated because there can be no beginning or end to movement. Movement is one with the world, not body/world, but body-worlding. We move not to populate space, not to extend it or to embody it, but to create it. Our preacceleration already colors space, vibrates it. Movement quantifies it, qualitatively. Space is duration with a difference. The difference is my body-worlding, always more than one . . . Preacceleration: a movement of the not-yet that composes the more-than-one that is my body. Call it incipient action. (Manning 13)

Manning’s new philosophy of movement builds upon the philosophy of Deleuze, Guattari, Massumi and Whitehead, and the creative practices of artists and dancers, to try and cut-across the binaries of mobility/stasis, self/world, and passive/active. In doing so, she abandons conventional understandings of movement and action that rely upon cognitive models of decision-making, bounded ethnocentric conceptions of individual action, and non-representational approaches to power. The question of what propels the mobile human body, and what forces enact mobility, is opened out in the thinking of Manning, Deleuze and Guattari, and no answer is provided because forces are not universal and are not always perceptible through the human body.

How might different traditions of thinking approach the topics of action and force? A physical scientist might highlight the forces of gravity, friction, air resistance, and propulsion

which act on a mobile body. Psychologists, physiologists and behavioural scientists might point to the neurological and cognitive processes, modes of perception, and motor functions which enable mobile actors to perceive, mentally process and physically enact movement. Sociologists and political scientists may highlight the different enabling and constraining factors which produce mobility and fixity in different ways, ranging from social and economic capital to political influence. Process and post-structuralist philosophers may emphasise the incessant movements involved in ontogenesis and worlding. Relational thinking may point to the inseparability and complex entanglements of individual humans and other bodies and environments.

In a mobility context, few scholars have effectively worked across and between these disciplinary fields, although in a number of papers Tim Cresswell has pursued what he calls a “mesotheoretical approach to the politics of mobility” by breaking it down into “constituent parts (motive force, velocity, rhythm, route, experience, and friction)” which cut across any neat distinction between the physical sciences and social sciences (Cresswell, “Towards” 17; Cresswell and Martin). In an important co-authored paper from 2012, Cresswell and Martin engage with atomist, processual and post-structuralist theories of turbulence, assemblage and entanglement developed from the thinking of Lucretius, Serres, Deleuze, Guattari and DeLanda to cut across conventional binaries of stasis and mobility and explore “turbulent mobilities” that reveal the “entanglements of stasis and movement” (521). These theoretical ideas may be placed in the same conceptual lineage as the nomadic and non-representational theories over which Cresswell has, at times, expressed scepticism and concern (“Nonrepresentational Theory”), and I wonder whether it was his collaboration with Craig Martin which prompted this embrace of these theories. As with much of Cresswell’s other research, the “turbulence” paper is underpinned by a conceptual and methodological approach which cannot be easily situated in either the arts and humanities or social sciences (see Cresswell and Adey), although Cresswell and Martin do appear to evidence their theoretical claims using textual and media analysis. The “real-world” molar geographies of the beached container ship MSC Napoli are used to evidence claims about the turbulence of mobilities, but such methodological strategies need to be treated cautiously if we are to recognise the plural or multiple unfoldings of events, practices and spaces. Perceptions, experiences and events of turbulence and smoothness will be culturally specific and variable. In short, mobility scholars—and others—always need to be careful about invoking empirical evidence and adopting realist arguments about “how things are,” as if they “are” that way for everybody.

Molar and Molecular Mobilities

Realist accounts of mobility largely focus on practices and events of movement and stillness that are clearly perceptible to some human travellers, to which scholars add detailed

investigations of the broader social, legal, political and economic factors shaping actual and potential movements. These are the movements and events occurring in Reichenbach's "zone of the middle dimensions" (Čapek xiv), and they are conceived and represented through contemporary Western ontological and embodied practices which appear blind to the kinds of primary movement and vibrant materiality discussed by prominent thinkers such as Deleuze and Guattari, Serres, Jane Bennett, Erin Manning, Brian Massumi, and Cresswell and Martin, who tap into a diverse tradition of thinking that includes Lucretius, Heraclitus, Bergson and Whitehead. In my own research I have focussed on Deleuze and Guattari's distinction between the "molar" and "molecular" which can be useful for cutting across the mobility/fixity binary and for understanding how some movements become perceptible, while others remain imperceptible. In this section, I explore the key principles of this thinking.

It would be a mistake to see "molar" movements as being of a particular magnitude and size that renders them visible to the human eye, and "molecular" materials and movements as being very small and invisible. As Deleuze and Guattari insist in *A Thousand Plateaus*, the molar and molecular are neither opposed nor defined by their size (215). Rather, the molar and molecular are "inseparable . . . segmentarities" that are distinguished by their degree of perceptibility, legibility, and the affective regimes gathered around them (213). Imperceptible molecular aggregations can be very large becomings that are simply not perceived as wholes, just as perceptible molar entities may be invisible to the human eye but remotely sensed and easily grasped and conceived as things. Molar entities tend to be aligned with representation, perception, and bounded "organised" individual material bodies or collective groupings, whereas molecular bodies often appear to be imperceptible, fluid and to defy representation (215, 217, 219). To repeat again, though, they should not be placed in binary opposition. Seemingly molar entities are in a continuous state of becoming-molecular, becoming-mobile, becoming-imperceptible. Likewise, molecular forces and affects are in a continual state of becoming-molar and becoming-perceptible. What this thinking highlights is how molar movements are continually traversed and cross-cut by an array of molecular movements, affects and forces, exhibiting a tendency to become molecularised, imperceptible and deterritorialised. It is futile, then, to simply try and locate the root cause or force of actions, practices and events in bounded molar bodies that are forever becoming molecular. And it is this tendency which still clearly dominates contemporary social science theories that focus on macropolitical relations between pre-formed physical and molar bodies, ignoring transversal processes, ontogenesis, and becomings, as well as the molecular affects and movements circulating between bodies that are all-too-frequently black-boxed as closed entities or structures.

Do molecular mobilities have a politics?; are they caught in political regimes, relations and affective forces? For Deleuze and Guattari, "everything is political" (213), so the answer is yes. But, more importantly, for them "every politics is simultaneously a *macropolitics* and a *micropolitics*," including the kind of "macropolitical" alliances and forces that show up

in contemporary forms of political organisation and action, as well as the more incipient “micropolitics” of “unconscious micropercepts, unconscious affects, [and] fine segmentations . . . [that] are distributed and operate differently” (213). While the vast majority of social scientists focussing on mobility tend to focus on the “molar masses” and macropolitics involved in clearly perceptible actions, structures and relations, Deleuze and Guattari’s work—together and separately—highlights how in “particular” political struggles and configurations molecular and molar affects and forces operate simultaneously at different levels. The political ramifications of this were most fully developed by Félix Guattari in some of his solo writings from the late 1970s and early 1980s. For example, in *Molecular Revolution in Brazil*, Guattari expands upon his writings with Deleuze on the molar and molecular by outlining his approach to “micropolitical” and “molecular” political forces. First, he insists that there is “no logic of contradiction” between molar and molecular levels:

The same kinds of elements and the same kinds of individual and collective components that operate in a certain social space may function in an emancipatory way at a molar level, and coextensively may be extremely reactionary at a molecular level. (Guattari and Rolnik 187)

Second, he insists that the job of the theorist or analyst is one of “*placing micropolitics everywhere*” (190). This is important because micropolitics and molecular political relations operate below the thresholds of perception and representation at “the level of the production of subjectivity” (39), involving affective forces and relations that are felt and sensed but not always openly and dramatically expressed. Drawing upon processual and relational approaches to human subjectivity, Guattari delineates a “micropolitics of molecular transformations” that is based upon a radical questioning of traditional psychoanalytic “notions of the individual as a general reference for processes of subjectification” (44). This thinking is clearly in line with the broader distributed and relational approaches to affective relations that he and Deleuze develop elsewhere.

A third point which is emphasised by Guattari in *Molecular Revolution in Brazil* is that we must not judge “molar” aggregates as autonomous, negative, oppressive or dominant “blocks” (in every sense) which forcefully structure our social worlds and inhibit change, just as we must not automatically assume that micropolitics and molecular political forces are inherently liberatory or progressive. For example:

. . . a community work group may have a clearly emancipatory action at a molar level, but at a molecular level have a whole series of phallocratic, reactionary leadership mechanisms . . . Inversely, the action might reveal itself to be reactionary and conservative at the level of the visible structures of social representation, at the level of the discourse as articulated on the political or religious level or whatever, that is, at a molar level. And at the same time components of expression of desire, of expression of singularity, may appear at a molecular level, elements that do not in any way lead to a reactionary, conformist politics. (Guattari and Rolnik 187)

Molar becomings may exert a positive force, assembling and infrastructuring practices and affective relations in open and liberatory ways, just as micropolitical actions can be toxic and fascist in their incipient undermining of subjective formations, desires, and collective movements.

Guattari's thinking on molecular and molar forces, affects and circulations highlights the interconnected influences of micropolitical and macropolitical actions in shaping the emergence of movements, desires, collective affects and social actions. They hint at the limitations of realist approaches that while undoubtedly drawing attention to the forceful "molar" movements and materials involved in important processes like migration, commuting, and holiday-making, ignore the incessant molecularisation of these molar geographies, and the transversal molecular forces that shape and undermine the binaries of mobility/stasis in different ways.

Conclusions

In this article I have examined some of the different ways in which mobility scholars have approached the binary of mobility/stasis, challenging a binary which is often invoked for critical political ends. A prime example of this would be when scholars contrast "our" privileges as educated mobile Western elites with the injustices faced by immobilised peoples in different places, whether Palestinian citizens whose mobilities are severely constrained by the Israeli authorities and their "defence wall" (see Pullan; Cresswell, "Mobilities III"), or those who have experienced environmental disasters in places like Haiti or New Orleans (see Cresswell, "Understanding"; Sheller). As Tim Cresswell once remarked of processual accounts which focus on molecular movements:

While it is the case that the world is always in motion at a molecular level, it still presents plenty of immobilities at both experiential and political levels. Molecular vibrations are not much comfort, I expect, to Palestinians who cannot walk through the wall that has been built between their homes and their farmland. Immobilities (and indeed time-spaces) such as these cannot be wished away with a theoretical wand. ("Mobilities III" 719)

There is a danger that my account might be seen to undermine the political force of such left-leaning critical accounts, and there is always a danger that left-leaning "processual" accounts like Deleuze and Guattari's get co-opted by politicians or military figures who see the benefits of adopting nomadic strategies and accelerationist principles as a counter to insurgent practices (see Weizman). This is, indeed, a risk, although there are also dangers of adopting approaches which universalise and naturalise Western spatialities, binaries and mobile ontologies, even if they are underpinned by positive political motives. Realist theoretical approaches often clearly distinguish between mobile and immobile citizens, efficient and failing infrastructures, activity and passivity, and the powerful and the weak,

mobilising particular kinds of empirical evidence to affirm, deny or adjust their theoretical approaches to the social, political and economic production of mobilities. The *modus operandi*, here, is to observe the world, identify theories, outline aims and hypotheses, observe the world again (through the lens of data), analyse data in relation to preferred theories, disprove other theories, draw conclusions, and repeat. The danger is that such realist social science epistemologies inevitably reify the observations and common-sense rationales of privileged Western researchers, who often speak of and for underprivileged mobile subjects. Mobility studies clearly has a lot to learn from post-colonial thinkers, critical race scholars, anthropologists and development studies scholars in the non-Western majority world, but I believe that “we” as mobility scholars must also look beyond standard social science theories, methods and approaches to embrace different philosophies, methods and practices in the arts and humanities (see Merriman and Pearce). Experimental approaches rooted in the arts and humanities, whether in philosophy, linguistics, film studies and literary studies, or practise-based work in art, film, dance and performance, has the potential to move mobility scholarship forward in exciting, experimental, open-ended but no less political ways.

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Works Cited

- Adey, Peter. “Fluidity-Fixity.” *International Encyclopedia of Human Geography*, edited by Rob Kitchin and Nigel Thrift, vol. 4, Elsevier, 2009, pp.194-99.
- _____. “If Mobility Is Everything Then It Is Nothing: Towards a Relational Politics of (Im)mobilities.” *Mobilities*, vol. 1, no. 1, 2006, pp. 75-94, <https://doi.org/10.1080/17450100500489080>.
- _____. *Mobility*. 2nd ed., Routledge, 2017.
- Bennett, Jane. “Systems and Things: A Response to Graham Harman and Timothy Morton.” *New Literary History*, vol. 43, no. 2, 2012, pp. 225-33, <https://doi.org/10.1353/nlh.2012.0020>.
- _____. *Vibrant Matter*. Duke UP, 2010.
- Bissell, David. “Vibrating Materialities: Mobility-Body-Technology Relations.” *Area*, vol. 42, no. 4, 2010, pp. 479–86, <https://doi.org/10.1111/j.1475-4762.2010.00942.x>.
- Bissell, David, and Gillian Fuller. “Stillness Unbound.” *Stillness in a Mobile World*, edited by David Bissell and Gillian Fuller, Routledge, 2011, pp. 1-17.

- Braidotti, Rosi. *Nomadic Subjects*. Columbia UP, 1994.
- Čapek, Milič. *The Philosophical Impact of Contemporary Physics*. D. Van Nostrand Company, 1961.
- Chambers, Iain. *Border Dialogues: Journeys in Postmodernity*. Routledge, 1990.
- Cresswell, Tim. "Imagining the Nomad: Mobility and the Postmodern Primitive." *Space and Social Theory*, edited by George Benko and Ulf Strohmayer, Blackwell, 1997, pp. 360-79.
- _____. "Mobilities III: Moving on." *Progress in Human Geography*, vol. 38, no. 5, 2014, pp. 712-21, <https://doi.org/10.1177/0309132514530316>.
- _____. "Nonrepresentational Theory and Me: Notes of an Interested Sceptic." *Environment and Planning D: Society and Space*, vol. 30, no. 1, 2012, pp. 96-105, <https://doi.org/10.1068/d494>.
- _____. *On the Move: Mobility in the Modern Western World*. Routledge, 2006.
- _____. "The Production of Mobilities." *New Formations*, vol. 43, 2001, pp. 11-25.
- _____. "Towards a Politics of Mobility." *Environment and Planning D: Society and Space*, vol. 28, no. 1, 2010, pp. 17-31, <https://doi.org/10.1068/d11407>.
- _____. "Understanding Mobility Holistically: The Case of Hurricane Katrina." *The Ethics of Mobilities: Rethinking Place, Exclusion, Freedom and Environment*, edited by Sigurd Bergmann and Tore Sager, Ashgate, 2008, pp. 129-40.
- Cresswell, Tim, and Craig Martin. "On Turbulence: Entanglements of Disorder and Order on a Devon Beach." *Tijdschrift voor Economische en Sociale Geografie*, vol. 103, no. 5, 2012, pp. 516-29, <https://doi.org/10.1111/j.1467-9663.2012.00734.x>.
- Cresswell, Tim, and Peter Adey. "An Interview with Tim Cresswell." *Mobility Humanities*, vol. 1, no. 2, 2022, pp. 148-58, <https://doi.org/10.23090/MH.2022.07.1.2.148>.
- Deleuze, Gilles. *Spinoza: Practical Philosophy*. City Lights Books, 1988.
- Deleuze, Gilles, and Félix Guattari. *A Thousand Plateaus*. Athlone, 1988.
- Dewsbury, John-David. "Performativity and the Event: Enacting a Philosophy of Difference." *Environment and Planning D: Society and Space*, vol. 18, no. 4, 2000, pp. 473-96, <https://doi.org/10.1068/d200t>.
- Doel, Marcus A. "Un-glunking Geography: Spatial Science After Dr Seuss and Gilles Deleuze." *Thinking Space*, edited by Mike Crang and Nigel Thrift, Routledge, 2002, pp. 130-48.
- Engelbrietsen, Ada Ingrid. "Key Figure of Mobility: The Nomad." *Social Anthropology*, vol. 25, no. 1, 2017, pp. 42-54, <https://doi.org/10.1111/1469-8676.12379>.
- Graham, Stephen, and Nigel Thrift. "Out of Order: Understanding Repair and Maintenance." *Theory, Culture and Society*, vol. 24, no. 3, 2007, pp. 1-25, <https://doi.org/10.1177/0263276407075954>.
- Gray, Steven. "Fuelling Mobility: Coal and Britain's Naval Power, c. 1870-1914." *Journal of Historical Geography*, vol. 58, 2017, pp. 92-103, <https://doi.org/10.1016/j.jhg.2017.06.013>.
- Guattari, Félix, and Suely Rolnik. *Molecular Revolution in Brazil*. Semiotext(e), 2008.
- Kaplan, Caren. *Questions of Travel*. Duke UP, 1996.
- Kaufmann, Vincent. *Re-thinking Mobility: Contemporary Sociology*. Ashgate, 2002.
- Kaufmann, Vincent, et al. "Motility: Mobility as Capital." *International Journal of Urban and Regional Research*, vol. 28, no. 4, 2004, pp. 745-56, <https://doi.org/10.1111/j.0309-1317.2004.00549.x>.
- Latour, Bruno. *We Have Never Been Modern*. Translated by Catherine Porter, Prentice Hall, 1993.
- Lefebvre, Henri. *The Production of Space*. Translated by Donald Nicholson-Smith, Blackwell, 1991.
- Malkki, Liisa. "National Geographic: The Rooting of Peoples and the Territorialization of National Identity among Scholars and Refugees." *Cultural Anthropology*, vol. 7, no. 1, 1992, pp. 24-44, <https://doi.org/10.1525/can.1992.7.1.02a00030>.
- Manning, Erin. *Relationescapes: Movement, Art, Philosophy*. MIT Press, 2009.
- Merriman, Peter. "Archaeologies of Automobility." *The Oxford Handbook of the Archaeology of the Contemporary World*, edited by Paul Graves-Brown et al., Oxford UP, 2013, pp. 437-50.
- _____. *Driving Spaces: A Cultural-Historical Geography of England's M1 Motorway*. Wiley-Blackwell, 2007.
- _____. "Human Geography without Time-Space." *Transactions of the Institute of British Geographers*, vol. 37, no. 1, 2012, pp. 13-27, <https://doi.org/10.1111/j.1475-5661.2011.00455.x>.
- _____. "Mobilities II: Cruising." *Progress in Human Geography*, vol. 40, no. 4, 2016, pp. 555-64, <https://doi.org/10.1177/0309132515585654>.
- _____. *Mobility, Space and Culture*. Routledge, 2012.
- _____. "Molar and Molecular Mobilities: The Politics of Perceptible and Imperceptible Movements." *Environment and Planning D: Society and Space*, vol. 37, no. 1, 2019, pp. 65-82, <https://doi.org/10.1177/0263775818776976>.
- _____. "Rethinking Mobile Methods." *Mobilities*, vol. 9, no. 2, 2014, pp. 167-87, <https://doi.org/10.1080/17450101.2013>.

- 784540.
- _____. *Space*. Routledge, 2022.
- _____. "Unpicking Space-Time: Towards New Apprehensions of Movement-Space." *Perspectives on Mobility*, edited by Ingo Berensmeyer and Christoph Ehland, Rodopi, 2013, pp.177-92.
- Merriman, Peter, and Lynne Pearce. "Mobility and the Humanities." *Mobilities*, vol. 12, no. 4, 2017, pp. 493-508, <https://doi.org/10.1080/17450101.2017.1330853>.
- Munn, Nancy D. "Excluded Spaces: The Figure in the Australian Aboriginal Landscape." *Critical Inquiry*, vol. 22, no. 3, 1996, pp. 446-65, <https://doi.org/10.1086/448801>.
- Nail, Thomas. *Being and Motion*. Oxford UP, 2019.
- _____. "The Ontology of Motion." *Qui Parle*, vol. 27, no. 1, 2018, pp. 47-76, <https://doi.org/10.1215/10418385-4382983>.
- _____. "What is the Philosophy of Movement?" *Mobility Humanities*, vol. 1, no. 1, 2022, pp. 6-22, <https://doi.org/10.23090/MH.2022.01.1.1.006>.
- Pandya, Vishvajit. "Movement and Space: Andamanese Cartography." *American Ethnologist*, vol. 17, no. 4, 1990, pp. 775-97, <https://doi.org/10.1525/ae.1990.17.4.02a00100>.
- Penrose, Sefryn. *Images of Change: An Archaeology of England's Contemporary Landscape*. English Heritage, 2007.
- Prigogine, Ilya, and Isabelle Stengers. *Order Out of Chaos*. Flamingo, 1985.
- _____. "Postface: Dynamics from Leibniz to Lucretius." *Hermes: Literature, Science, Philosophy*, edited by Josué V. Harari and David F. Bell, Johns Hopkins UP, 1982, pp. 135-55.
- Pullan, Wendy. "Conflict's Tools. Borders, Boundaries and Mobility in Jerusalem's Spatial Structures." *Mobilities*, vol. 8, no. 1, 2013, pp. 125-47, <https://doi.org/10.1080/17450101.2012.750040>.
- Schivelbusch, Wolfgang. *The Railway Journey: Trains and Travel in the Nineteenth Century*. Blackwell, 1980.
- Serres, Michel. *The Birth of Physics*. Translated by Jack Hawkes, Clinamen, 2000.
- _____. *Hermes: Literature, Science, Philosophy*. Edited by Josué V. Harari and David F. Bell, Johns Hopkins UP, 1982.
- Sheller, Mimi. "The Islanding Effect: Post-Disaster Mobility Systems and Humanitarian Logistics in Haiti." *Cultural Geographies*, vol. 20, no. 2, 2013, pp. 185-204, <https://doi.org/10.1177/1474474012438828>.
- Sibley, David. *Geographies of Exclusion*. Translated by Taylor Adkins, Routledge, 1995.
- Simondon, Gilbert. *Individuation in Light of Notions of Form and Information*. U of Minnesota P, 2020.
- Strathern, Marilyn. "Cutting the Network." *Journal of the Royal Anthropological Institute*, vol. 2, no. 3, 1996, pp. 517-35, <https://doi.org/10.2307/3034901>.
- _____. *Relations: An Anthropological Account*. Duke UP, 2020.
- Sutherland, Thomas. "Intensive Mobilities: Figurations of the Nomad in Contemporary Theory." *Environment and Planning D: Society and Space*, vol. 32, no. 5, 2014, pp. 935-50, <https://doi.org/10.1068/d14027p>.
- Thrift, Nigel. "Introduction: Dead or Alive?" *Cultural Turns/Geographical Turns*, edited by Ian Cook et al., Prentice Hall, 2000, pp.1-6.
- _____. "Non-Representational Theory." *The Dictionary of Human Geography*, edited Ron Johnston et al., Blackwell, 2000, p. 556.
- Urry, John. *Global Complexity*. Polity, 2003.
- Vannini, Phillip, editor. *Non-Representational Methodologies: Re-Envisioning Research*. Routledge, 2015.
- Weizman, Eyal. *Hollow Land: Israel's Architecture of Occupation*. Verso, 2007.