



Being surprised and surprising ourselves: A geography of personal and social change

Progress in Human Geography
2020, Vol. 44(1) 99–118
© The Author(s) 2018



Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/0309132518810431
journals.sagepub.com/home/phg



Dragos Simandan 

Brock University, Canada

Abstract

Surprises are refuted expectations and therefore an inevitable concomitant of errors of anticipating the future. This paper argues that the timing is just right for a spatial account of surprise, or rather, for a geography of personal and social change that deploys the trope of surprise to help explain how and why change happens. Whether we are surprised by what transpires in our surroundings or we are surprising ourselves by leaping forward in impetuous deeds of reinventing who we are, the common denominator of these processes of becoming is that they produce geographical space and are produced by it.

Keywords

affect, embodiment, geographical change, geographical scale, personal and collective futures, surprise, uncertainty

1 Introduction

Curiously, the direct, explicit, exploration of ‘surprise’ as a conceptual entry point and tool for understanding the production of space¹ has been a rather marginal preoccupation in social theory and human geography. A bibliographic search for geographical scholarship that contains at least one of the words ‘surprise’, ‘surprised’, ‘surprising’ in their title returns only a handful of papers (Deutsche, 1995; Lee, 1976; Mackenzie, 2007; Mills, 2013), none of which is dedicated to the detailed investigation of the phenomenon of surprise as such. The indirect, implicit exploration of ‘surprise’, however, has been a long-standing endeavor in phenomenology, social theory, and human geography, under the guise of related terms such as ‘encounter’ (Adams, 2017; Kallio, 2017; for a review, see Wilson, 2017), ‘event’ (Dilkes-Frayne and

Duff, 2017; for a review, see Shaw, 2012), ‘unpredictability and uncertainty’ (Simandan, 2010a, 2019a; Tucker, 2017; for a review, see Fusco et al., 2017), ‘estrangement’ and the ‘extraordinary’ (Ash and Simpson, 2016; Larsen and Johnson, 2012; McCormack, 2017), as well as ‘risk’ (Neisser and Runkel, 2017), ‘hazard’ (Nobert and Pelling, 2017), and ‘disaster’ (Hu, 2018).

Surprises are violated expectations and therefore an inevitable concomitant of errors of anticipating the future. Geographical work on anticipation has mirrored the internal diversity

Corresponding author:

Dragos Simandan, Geography Department, Brock University, 1812 Sir Isaac Brock Way, St. Catharines, Ontario, Canada, L2 S 3A1.
Email: simandan@brocku.ca

of the social sciences, as the following two illustrations will make clear. The first is a paper by Peter Haggett, called ‘Prediction and Predictability in Geographical Systems’ (1994), and exemplifies what one may call traditional, non-critical, social science (Johnston and Sidaway, 2016). Haggett points out that even though ‘the notion of predictability is . . . weakly developed in the geographical literature’ (1994: 6) and constitutes an area in which ‘the making of mistakes can be guaranteed’ (p. 6), it rewards deep study for both personal and collective reasons. At the personal level, ‘predictions widen the range of experience, so long as we learn from them’ (p. 18). At the collective level, ‘the world which I study as a geographer is changing . . . so *dangerously* that we *must* try to peer ahead into the fog of the future – however bruised and exposed that may leave us as academics’ (p. 18, emphasis added). The aim of this type of scholarship is to improve our grasp of reality and contribute to human welfare by getting better at the task of predicting and controlling our environment. The underlying economic and political structure is not questioned and particular choices of words used by Haggett (e.g. *dangerously*) imply that it is worth defending.

The second illustration is a much-cited paper by Ben Anderson (2010), called ‘Preemption, Precaution, Preparedness: Anticipatory Action and Future Geographies’, and exemplifies critical scholarship, that is, an approach to studying social space that shows that the current economic and political order is rotten and, therefore, should be replaced with a better world (Barnett, 2018; Simandan, 2011a, 2011b). Anderson argues that ‘the future is now problematized as a disruption, a surprise’ (2010: 777) that threatens liberal democracies, and the study of anticipatory action is a prerequisite for understanding the complex geographies ‘made and lived in the name of preempting, preparing for, or preventing’ these threats (p. 777). Since from the standpoint of critical social theory neoliberalism is the problem, Haggett’s earlier work to

help predict and prepare for the ‘dangerous’ changes that threaten the current order can be recast, ironically, as being part of the problem, rather than the solution to it.

Taking Anderson’s argument one step further, Ash Amin wrote a paper with the striking title ‘Surviving the Turbulent Future’ (2013) to highlight that ‘in neoliberal societies, the future is increasingly being cast as unpredictable and dangerous’ (Amin, 2013: 140) and to provide a critique of the ‘neoliberal calculus of risk mitigation’ (p. 140) in urban settings. The preoccupation with the spatiality of the neoliberal logics underpinning the quest for resilient futures also appears more recently in the work of Simon and Randalls (2016), although they argue for a broader vision of resilient futures that need not be neoliberal in spirit or implementation. In reaction to the frightening vision of a dangerous future, full of negative surprises, stands the voluntaristic notion of ‘transitioning’ toward ‘desirable futures’ (cf. Schwanen, 2018). As Brown et al. (2012: 1607) have convincingly argued, neoliberal regimes deploy this notion ‘to frame and combine discourses in terms of community development, responses to environmental change, and the individual lifecourse’. This observation is important for my purposes, because later on in the paper I will discuss in some detail the underappreciated relationship between global, collective futures and personal futures (see also Krupar and Ehlers, 2017; Olund, 2017; Oswin, 2014; Schurr, 2017; Smith and Vasudevan, 2017; Wang, 2017). I shall argue that more detailed research on the constitutive role of surprise in people’s personal futures is sorely needed if socio-spatial theorists are to capture ‘the messiness of becoming, seeing transition through the scale of a life and important life events’ (Worth, 2009: 1050).

One of the many useful ways to understand surprise is by framing it as the antithesis of boredom. Therefore, the upsetting analytical neglect by geographers of the notion of surprise is partly made up for by their work on the

‘complex ways in which boredom, and bodies bored, compose time–space’ (Anderson, 2004: 739). We cannot fully understand why we need an ongoing supply of surprise in our lives unless we attend to ‘the risk of depletion that boredom, via its connection to meaninglessness and indifference, exemplifies’ (p. 739). Scholarship in this vein has recently been taken up in several fascinating directions, which, taken together, create a useful echo for my own investigation of the place-making and space-opening of surprise. Thus, Woodyer and Geoghegan (2013) have made a plea for re-enchanting geography and the social sciences (see also Bonnett, 2017, and Wilkinson, 2017). They define enchantment as a ‘force through which the world inspires affective attachment’ (2013: 195) and acknowledge its unintelligibility. The avowed purpose of their project is to encourage a ‘less repressed, more cheerful way of engaging with the geographies of the world’ (p. 195) by means of ‘restless experimentation with the re-orientation of knowledge toward surprising futures’ (p. 210). One way to foster enchantment is by cultivating curiosity, and this is the direction taken by Richard Phillips’s research program (Phillips, 2014; Phillips et al., 2015). Whereas there is an underlying preoccupation with developing a spatial understanding of curiosity, this research program is also concerned with the practicalities of ‘encouraging place-specific curiosity as a way to wellbeing’ (Phillips et al., 2015: 2339). In the same vein, but with a more explicit political motivation, Joanna Mann has recently theorized a geography and politics of whimsy. According to her, whimsy denotes the ‘capricious, playful and fanciful, and designates something irrational or without an immediately obvious reason to exist... this frivolity and illogicality are precisely what can make whimsy a significant, if fleeting, ground for micro-political change’ (Mann, 2015: 65). Finally, to the extent that surprise is a form of interruption, my work also resonates with Leila Dawney’s recent attempt to

recast interruption as an ‘event that elicits a mode of critique that enables an interrogation of both the sociality of affect and the somatisation of politics’ (Dawney, 2013: 628; cf. Last, 2017).

The aim of this paper is to demonstrate the significant role surprise plays in shaping the spatialities of both personal and social change. By personal change I mean all processes that describe and explain how a given individual becomes different than their earlier selves, either physically, or mentally, or both. By social change I mean all processes that describe and explain how a given community, group, or society becomes different than their earlier iteration, demographically, geographically, culturally, politically, and economically. One immediately apparent advantage of devoting analytical work to the notion of surprise is that it can act as a connecting device for tracing the transformation of space and society across geographical scales, from the body, to the global (cf. Merriman, 2018). It thus bridges the gap between scholarship concerned with the macro-level of the neo-liberal politics of anticipation (Anderson, 2010; Amin, 2013; Brown et al., 2012; Simon and Randalls, 2016) and scholarship focused on boredom, curiosity, whimsy, and enchantment, and, more generally, on the embodied and affect-laden dynamics of interruption and transition involved in the autopoiesis of personal futures (Anderson, 2004; Dawney, 2013; Mann, 2015; Phillips, 2014; Woodyer and Geoghegan, 2013; Worth, 2009). Not counting the customary introduction and conclusion, the paper is organized in two sections, as follows. The first part builds on work in cognitive science to delineate the conceptual landscape of surprise, by asking and answering the questions: why are surprises bound to happen; why and how do we tame or kill our surprises; why are surprises needed for our wellbeing; and what can we do to ensure that our surroundings remain sufficiently surprise-rich? The distinctions and considerations introduced in the first section are

leveraged in the second section, in the form of an extended discussion of the role surprise plays in articulating personal change with large-scale social change, across geographical scales. The discussion introduces Eelco Runia's philosophy of history (Runia, 2010; 2014), shows how it matches current sentiments and preoccupations in socio-spatial theory, and deploys it to understand the psychogeography and psychotopology of both biographical and historical discontinuities (see also Blum and Secor, 2011; Pile, 2010). The most rewarding entry point for apprehending geographical change, it is argued, resides not so much in the study of how we are being surprised by external happenings as in the (far more rattling) study of how we occasionally surprise ourselves.

II The conceptual landscape of surprise

Surprise is a complex phenomenon. A phenomenon can be said to be complex to the extent that it admits simultaneously of multiple equally true descriptions. Each such definition or description is true of that phenomenon, without doing full justice to what can be said of it. The plurality of possible definitions has the disadvantage of generating lack of clarity, confusions and disorientations, but also the countervailing advantage of inviting a profusion of new lines of thought and connections which, taken together, capture that phenomenon in much of its complexity and potential. In this paper, I will make a deliberate effort to look at surprise from multiple angles, and in multiple contexts, in order to (a) offer an overview of the theoretical and political potential of this concept for human geography, and (b) connect its academic and lay understandings. Indeed, 'lay beliefs about "surprise" might be indicating something about the value of lumping distinct concerns together *because in practice they often go together*' (Loewenstein, 2018: 3, emphasis added). Counterintuitively

to typical scholarly dispositions, 'taking a broad view of surprise may appear at first to be a sloppy lumping together of different approaches to surprise. However, it might actually be a useful and appropriate degree of lumping, an optimal level of fuzz' (p. 3).

From an information theoretical standpoint, a surprise is a sudden transfer of a large amount of information in a short time (Futrell, 2011): by harboring a particular expectation and having it violated by actual eventuations, one is learning a great deal in a short amount of time, the exact amount depending on the magnitude of surprise, that is, on the differential between expectations (or Bayesian priors) and eventuations (or Bayesian posteriors). Conversely, to expect someone or something to be informative means to expect them or it to be capable of surprising us, that is, to expect them to be, at least to some extent, unpredictable. The surprisingness or unexpectedness of an item of information should not be confused with its unfamiliarity (Kagan, 2009). If one visits a foreign country and stumbles upon one's neighbor from home there, one is surprised by something familiar. In a realm that is unfamiliar to us, we tend to expect encounters with items that themselves are unfamiliar. The surging of a familiar face in such an unfamiliar context is therefore surprising. Familiarity and novelty do not play a zero-sum game whereby increases in one entail decreases in the other. Instead, more familiarity produces more novelty, because it provides a finer-grained, richer texture against which to detect departures from familiarity, that is, novelties (Rheingold, 1985). By acquiring expertise in a given domain, one becomes deeply familiar with its intricacies, which creates a cognitive scaffolding from which to notice minor novelties, or abnormalities (departures from familiarity), that escape the eye of the untrained. Ironically, perhaps, novelty can be generated not only by the introduction of new stimuli, but also by the absence of familiar ones (Rheingold, 1985). Because they are familiar and we expect them

to occur in a given place or occasion, when they fail to do so, we are surprised.

Since the intensity of the surprises one experiences is directly proportional to how *certain* we were of the expectation that was subsequently violated (reality refusing to cooperate with us), it is easier to understand how surprise is very different from uncertainty (Fusco et al., 2017; Kwan and Schwanen, 2018; Tucker, 2017). One is uncertain of something when one doesn't have any strong prior expectation as to which outcome will occur. The situation may turn out this way or that way and the observer doesn't have enough information to make an epistemic bet on a particular eventuation. When a situation (the outcome of which we are uncertain about) unfolds and settles on a given result, we say that our uncertainty about it dissolved itself or dissipated. The experience of surprise presupposes at some level a form of epistemic hubris: one is rather confident in one's expectation, that is, one feels one has strong reasons to believe it will happen. Its failure to happen triggers the subjective experience of surprise: being startled, shocked, confused, awed, astonished, intrigued, rattled, amazed, and so on (Larsen and McGraw, 2011; Simandan, 2018a, 2018b, 2018c). When feeling uncertain, epistemic humility comes before ('I don't know for sure what will happen'); when gripped by surprise, epistemic humility comes after ('I never saw this thing coming').

By attending to time and space as fundamental categories of human experience, we can distinguish temporal surprises from spatial surprises (Baldi and Itti, 2010). To illustrate, if a given event expected to occur late in a sequence of events takes place instead right at its beginning, we have a case of a temporal surprise. Events such as the premature death of an acquaintance, or the early retirement of a colleague in her 30s, or the melting of the summer Arctic ice cap well ahead of what climate modelling forecasted, constitute temporal surprises because they violate expectations about the

timeline of a given process. Spatial surprises may include situations such as finding one's glasses in the refrigerator, noticing a species of animals well outside its natural habitat, or discovering upon revisiting a city that one's favorite park has been replaced with condominium developments. Given that place is a means for producing space (Thrift, 1999), a dynamic process of 'emergent co-becoming' (Wright et al., 2016: 455), and that our positionality prevents us from accurately keeping track of change in all the places entangled with our subjectivity (Larsen and Johnson, 2012; Pierce et al., 2011; Simandan, 2019b), spatial surprises are a guaranteed feature of life. They have been at least implicitly at the heart of ongoing debates in economic geography concerning industrial location, innovation, and regional economic development. If evolutionary economic geography emphasizes the notions of path-dependence and 'related variety' to explain changing patterns of economic activity over time (Boschma, 2017; Boschma and Martin, 2007), Michael Storper has pointed out that these concepts fail to explain spatial economic surprises (i.e. 'radical spatial and economic ruptures with the past'; Storper, 2011: 342), such as the birth and growth of Silicon Valley, of the film industry in Los Angeles in the 1910s, of the aeronautical industry in Los Angeles in the 1920s, or of South Korea as a rapidly growing economy (see Storper, 2011: 342–3).

As I am about to argue, awareness of the spatial dynamics of surprise opens up a different vista for comprehending how we stitch together our precarious sense of coherent subjectivity through our encounter with the world (cf. Dilkes-Frayne and Duff, 2017; Wilson, 2017): instead of falling apart under the assault of the world's never-ending stream of surprises, we attempt to pull ourselves together by incorporating the lessons of those surprises into the next iteration of our subjectivity. Paradoxically, that apparently benign process may erode the

interestingness of existence (dis-enchantment), and, thereby, dampen our emotional reactivity and reduce our subjective well-being. A discussion of the geographical dynamics of surprise requires attending not only to the complex problem of why and how surprises appear and disappear, but also to the equally complex problem of why humans have the paradoxical motivation to both eliminate and foster them.

Beginning with the first class of problems, surprises appear in everyday life because our mental model of the world necessarily is an impoverished and distorted account of how the world works. The central task for our brains is to anticipate what will happen next (Clark, 2013; Friston et al., 2015). When there is a mismatch between anticipation and actual occurrence, surprise ensues, thereby triggering a process of belief updating that re-aligns our mental model of the world to our most recent perceptions of how the world works (Macedo and Cardoso, 2018). Surprise, in other words, is an inevitable feature of existence and serves the adaptive function of adjusting ourselves to the world. The recent trend in human geography and the social sciences to emphasize the radical contingency of social reality only reinforces the significance of surprise in our theories of the social world (Massey, 2005; Müller and Schurr, 2016; Woodward et al., 2012). Since eventuations in the world are often highly improbable, this by definition means that they could not have been confidently expected to occur. To put this point differently, the radical contingency of many world eventuations entails our being surprised by them. Surprise is the epistemological counterpart of the ontological category of contingency (Simandan, 2010b, 2018a).

Even though we cannot predict, by definition, which particular surprises will happen, we can predict, at the meta-level, that sooner or later some surprises of one kind or another will happen. Foreseeing a surprise is an oxymoron; foreseeing the existence of some surprisingness in the world in general is not.

Once we are confronted with a given surprise, our brains work to tame it, or to explain it away (Miller and Clark, 2017). They accomplish this task either by assimilating the surprising event into our existing mental models or by accommodating these models so that they can account for the occurrence of that surprise. We make sense of the world by killing our surprises, by making them appear unsurprising in light of our updated mental models of how the world works. This process happens both at the individual and collective levels. To illustrate, the global financial crisis of 2007–9 had not been predicted by economic geographers with any precision or accuracy, but once it happened, it generated an enormous literature attempting to offer a nuanced, multi-factorial, but *post-hoc* understanding of it (see Christophers, 2015, for a review). For example, a seminal paper by French, Leyshon, and Thrift (2009: 287) singled out four interacting explanatory variables, each one of which had its own level of irreducible complexity:

- (1) International financial centres, in particular, the longstanding competition that has existed between London and New York;
- (2) the insularity of the everyday geographies of money that have emerged in such centres in the wake of the apparent hegemony of financialization;
- (3) the geographical recycling of surpluses and deficits and, more particularly, the structural dependency that has grown up between China and the USA, and, finally;
- (4) the growing power of the financial media, centred in international financial centres and an increasingly significant agent in performing money and the economy in general, and in engendering mimetic forms of rationality.

Such academic accounts constitute public attempts to accommodate collective surprises by updating and enriching a (sub)discipline's shared mental representations of how the world works (Simandan, 2011c, 2019a). It is worth mentioning in this context that popular culture itself is increasingly preoccupied with surprise,

perhaps as part of the affective atmosphere of neoliberalism (Anderson, 2016), perhaps as part of a collective attempt to come to terms with, and make sense of, the global financial crisis of 2007–9, or of the ‘Trump phenomenon’ (Benjaminsen et al., 2018). Thus, Nassim Nicholas Taleb has popularized the notion of ‘the black swan’ (Taleb, 2007, 2012), by which he means highly improbable and highly consequential events that nobody could have anticipated. His writings have been instrumental in demonstrating how we fall, collectively, into the trap of the hindsight bias, retrospectively producing accounts of those black swans that normalize them, that obliterate their radical contingency only to replace it with a more reassuring necessity (‘they were bound to happen’; Simandan, 2010b). His writings have also educated a wide audience about wicked pitfalls of statistical reasoning, such as the excessive focus on averages and the neglect of variances (see also Savage, 2009), and the lazy preference for assuming normally distributed, Gaussian, phenomena instead of the more accurate, but less tractable, fat-tailed, non-Gaussian statistical distributions. He has shown that the mega-surprise represented by the global financial crisis of 2008–9 can be partly traced to the misleading reliance on financial risk modelling that failed to take into account the fat-tailed distribution of financial risk (Taleb, 2007, 2012).

Wilson and Gilbert (2008) have encapsulated the four steps involved in killing our surprises in the acronym AREA. We begin by attending to a surprising occurrence, we react emotionally to it, then we explain the surprise away, and thereby we affectively adapt to the initially surprising events. To adapt to an event, means, however, that it will seem far less surprising and interesting the next time it happens. It means that we are likely to pay less and less attention to it, and therefore to have a weaker and weaker emotional response to it. And therein lies the tradeoff involved in taming our surprises: on one hand, explaining our surprises away serves

the adaptive function of adjusting ourselves to the world. It helps us track reality by allowing us to make better calibrated predictions of our environment, which, in turn, permit us to control our surroundings more effectively (Leotti et al., 2010). Explaining our surprises away helps us stay alive. On the other hand, by killing our surprises we also undermine our occasions for enjoying the world. Explaining our surprises away erodes our capacity for feeling alive. A world that is fully predictable is a boring, dull world, where the appetite for living is gradually taken away from us. Because ‘explanation is vital to affective attenuation’ (Wilson and Gilbert, 2008: 381), this very process that allows us to predict and control our environment takes away from us the highs of living by dulling our emotional response to circumstances. The art of living might reside in striking the right balance between killing our surprises and fostering new ones.

Many apparently irrational behaviors can be explained by becoming aware that humans do not simply attempt to just maximize the instrumentality of their actions in order to achieve a particular goal. Instead, they often deliberately choose suboptimal, less instrumental means for achieving their goals because that type of choice helps keep their lives interesting (Ainslie, 2013). To say that a given action is optimal for achieving a given goal is also to say that one can predict with sufficient confidence that undertaking that action will accomplish the respective goal. A narrow understanding of instrumental rationality would thus compel a person to choose that action, but humans are smarter than that. The predictability entailed by maximally effective, optimal courses of action helps us in achieving a particular goal, but only at the cost of taking out the element of surprise, of excitement, of suspense, of entertainment.

At a preconscious, intuitive level, humans are aware of this tradeoff and often prefer to select less direct, less certain instrumental steps toward a goal. This deliberate indirection or

deliberate sub-optimality makes our engagement with the world a gamble or a bet (Ainslie, 2013). Sometimes we win, sometimes we lose, and we do not know in advance how the sequence of wins and losses will unfold. Like in a good movie, or a good novel, or a good soccer game, or a good conversation, the unpredictability of what's next foments a broad emotional range that resembles a rollercoaster. By choosing indirection and inefficiency in goal pursuit, we give ourselves room to enjoy living, to feel alive, to experience geographical reality as a form of free entertainment. Surprises, even when ostensibly bad, can be good for subjective wellbeing because of their awakening quality: they arrest habitual behavior and make us fully mindful of our surroundings. They constitute occasions for experiencing emotions, and thus experiencing what it means to be human, and to be alive. They help enchant or re-enchant our world, by reigniting our appetite for it (Bennett, 2001; Geoghegan and Woodyer, 2014; Merrifield, 2011). The problem with appetite comes from the fact that it is far easier to learn how to satisfy it than to create or renew occasions for it. The secret to renewal is, in a sense, geographical, and requires seeking, evoking, or inventing environments with texture that is both rich and durable. As Ainslie explains (2013: 457; it is worth recalling at this point that 'environment' is one of geography's key concepts):

With experience we gain skill at investing importance – betting – but our results depend on the availability of good occasions in the environment, a property that might be called its texture. Rich texture permits complex occasioning, for instance in a challenging puzzle or plot or human relationship. Durable texture is not worn away by familiarity, for instance in art. As endeavors and environments compete for our investment, this durability over time may be the determining factor for which endeavors survive... the popular song, the clever phrase and the good joke are rewarding in the short run, but with repetition anticipation erodes their usefulness as occasions.

Tic-tac-toe (noughts and crosses) engages a child's interest, but is replaced by draughts/checkers and then chess as the contingencies become predictable. As she becomes more able to predict complex patterns of play, these become the elements of wider puzzles. The most satisfying puzzles are those whose solution reveals new puzzles.

This quest for rich and durable environmental texture sometimes parallels and sometimes undermines the quest for achieving our usual personal and professional goals. When the boredom, restlessness, dullness, or stillness of a too cozy and predictable existence reaches a certain threshold, we may put our whole way of living on the line, in an attempt at a wholesale personal reinvention (cf. Buser, 2017). Everyday life, in other words, is an 'asymmetrical contest between systematic attempts to vouchsafe satisfying events and impetuous attempts to put them at risk' (Ainslie, 2003: 369). To the extent that we do not decide and act in isolation, but as social animals, shaped by a given cultural, political, and economic context, our impetuosity occasionally scales up and foments large-scale social change (Danyluk, 2018; Dittmer, 2014; Häkli and Kallio, 2014; Harvey, 2014; Little, 2000; Nicholls, 2008; Prudham and Heynen, 2011).

Whereas the next section will delineate some of the geographical and historical intricacies of this scaling-up process that conjoins the personal and the political, it is important to preface that analysis with a more *explicitly spatial* account of surprise inspired by recent empirical research in the cognitive sciences. The key empirical finding explaining the linkage between personal and social change is the fact that surprising information is more likely to be shared with others than non-surprising information (for a recent review see Loewenstein, 2018). If we see individuals as nodes or actors in broader social networks, we can begin to glimpse a spatial account of surprise that may

speak to both the older quantitative geographical tradition of spatial diffusion (Hagerstrand, 1953; see also Johnston et al., 2018) and to the newer geographical engagements with actor-network theory (Müller and Schurr, 2016; Simandan, 2018a).

Surprising information propagates throughout social networks and across geographical space preferentially, because of an interaction of several distinct phenomena (Loewenstein, 2018). Firstly, people pay more attention to surprising than to non-surprising content. Trying to communicate a message to someone else can be seen as an attempt to capture their attention from other competing concerns. Therefore, preferentially sharing surprising content is partly explained by the efficacy with which this sharing is likely to attract the other's attention (Reisenzein et al., 2018). Secondly, people are more aroused by surprising than non-surprising content, and this increased emotional responsiveness makes them more receptive to social influence and persuasion. Since we often share information not as a goal in itself but as a means to get others to act in a particular way, it is more effective to achieve this latter ambition by preferentially sharing surprising content, that is, content that is more likely to arouse and to open one to persuasion (Reisenzein et al., 2018). Thirdly, people better remember surprising information because the arousal it generates triggers better neural encoding. The increased memorability of surprising information helps explain its preferential spatial diffusion over non-surprising content through two interlinked facts: (a) a precondition for communicating something is to remember it; other things being equal, surprising information is better remembered, which means that when two persons meet, their communication is biased toward the sharing of surprising content simply because much of the non-surprising content is no longer remembered; (b) given that we often communicate to get others to change in ways we prefer, the sharing of surprising and therefore memorable

information is a more effective way to achieve lasting persuasion (Loewenstein, 2018). Fourthly, people tend to prefer surprises or information presented in a surprising fashion, compared to content that lacks an element of surprise. This means that cultural products such as movies, novels, songs, stories, pictures, or pieces of news are more likely to be enjoyed if they contain surprising aspects (Bietti et al., 2018). Since many of these cultural products are part of a cultural economy that seeks to monetize attention and liking, the capitalist quest for profit (or more modestly, a person's thirst for Facebook, YouTube, or Twitter popularity) can help propagate surprising content preferentially, throughout wide social networks, thereby incrementally changing cultures across broad geographical space.

In other words, surprise is productive of geographical space, by travelling preferentially throughout social networks and influencing how people think, feel, and act. The process of the spatial diffusion of surprise is productive of the very space over which it diffuses. To understand this phenomenon in more detail, in the next section I will complement the foregoing discussion couched in the terminology of networks and spatial diffusion, with an alternative formulation anchored in the concept of geographical 'scale'.

III Discussion: Surprise and historical mutation

Recent scholarship in areas as diverse as non-representational theory (Anderson and Harrison, 2010; McCormack, 2017; Thrift, 2008; Vannini, 2015; see, however, Anderson, 2018), demonic geography (Simandan, 2017), psychoanalytical geographies (Kingsbury and Pile, 2016), and feminist geography (Bondi, 2014; Moss and Donovan, 2017; for a review, see Simandan, 2019b) has begun to incorporate the insight that humans are strangers to themselves (Wilson, 2002) and that, therefore, the

explanation of human behavior requires at least as much attention to affect, the preconscious, and the preverbal, as to (allegedly) conscious free-will and (allegedly) rational decision-making. To state that we are strangers to ourselves is to state that we are at least in part opaque to ourselves. Opacity entails limited predictability, which in turn, guarantees the occurrence of surprise. In other words, we do not just get surprised by happenings outside ourselves, in the world out there, but instead are also able to surprise ourselves.

We surprise ourselves through what we say and what we do, through what we dare to imagine and what we dare to try (Clough, 2012; Heynen et al., 2017; Horton and Kraftl, 2009; Springer et al., 2012; Wilkinson, 2009). The surprises may matter only at the small temporal scale of the hour and the day (e.g. giving a shocking reply to a friend in an otherwise humdrum conversation), but occasionally make a difference at the larger temporal scale of our lives as a whole (e.g. daring to change gender, to become self-employed, or to join a monastery in Tibet). Since by surprising ourselves we discover new dimensions of who we are, there is a fundamental difference between the subjective experiencing of external surprises and that of endogenous, self-generated ones. Both classes of surprise, however, renew the appetite for living.

Admitting that one does not know oneself is destabilizing, and this provides the unconscious motivation to retrospectively rethink self-generated surprises as far less surprising and far less productive of novel spaces than they have actually been. That is to say, we are motivated to overstate the continuity and coherence of our place-based identities, which in turn shapes our expectations about our personal futures (see also Anderson and Adey, 2012; Collard et al., 2015; Kinsley, 2011; Mitchell, 2010). Quoidbach et al. (2013) have coined the term 'the end of history illusion' to denote the empirically documented fact that while humans admit to

some extent that they have changed from their past selves, they are far less likely to contemplate that they will also change in the future (in terms of preferences, desires, ways of thinking). The fact that they believe that their present self is a finished product that will persist as such, 'congealed', into the future is bound to be proven wrong, that is, to be a source of surprises about one's self. The difficulty humans have with accepting that they are strangers to themselves and the consequent projection or displacement of endogenously generated surprises into their external environment is beautifully captured in Eelco Runia's (2010) philosophy of history:

Retrospectively it is almost impossible even for the historical actors themselves to get access to the contingent, irrational, 'sacrilegious' aspect of the sublime event they brought about. In order to get a grip on the evanescent essence of the historical sublime, I propose to bring to a head, instead of leveling down, the tension that characterizes all historical and biographical discontinuities: the tension between the fact that discontinuities are made by the participants, *yet are portrayed by these very participants as having come as a surprise* . . . discontinuity is not a regrettable side-effect of our ambition to attain goals that are in line with our identity, but [instead] every now and then we give in to the urge to cut ourselves loose from our moorings. Making history – in the sense of embarking upon something that is as sublimely new as the French Revolution or the First World War – thus is not a matter of pursuing some interest but of willfully fleeing forward into the unknown (2010: 1). It is a supremely common, and supremely sly, operation: the willingness to do something unheard of evaporates in the process of coming to terms with it. The net effect of this operation is as spectacular as it is unpalatable: the more we accustom ourselves to ascribing what we did to the supposed reasons for our doing it, the more we transform ourselves into people who did not do it. (Runia, 2010: 3).

The impetuosity or recklessness that occasionally seizes biographical and historical actors

may betray their fear of death and the consequent attempts to manage it (cf. Emerson, 2018; Pyszczynski et al., 2015; Romanillos, 2015). We may deliver ourselves to recklessness when our lives get boring and dull because of the existential awareness that we have only one life to live, that time is precious, and that it is our duty to ourselves to make it count (Harrison, 2008; Smith et al., 2012). A life ought to be well-lived, that is, lively. By consequence, a dull life ought to be seen as an oxymoron. If one recognizes oneself in it, one should infer one has lost their way. Vertigo, or the urge to create history and reinvent ourselves, is nothing more but the affective precipitate of that act of painful self-recognition. If this interpretation has some merit, then urgency, or the inability to tolerate inaction, should not be seen as a flaw of the rational actor, but as an understandable reaction to existential dread (cf. Elster, 2009; Olson, 2015; Smith, 2013).

In common parlance, we think of vertigo as a mere fear of heights, but the phenomenon spawns much more complexity than that. It can therefore be harnessed as a focal metaphor (cf. Nelson, 2018) for understanding the production of large-scale historical change through cascades of acts of surprising ourselves:

Vertigo is the result of the fear that you won't be able to resist something. [It] is not primarily a fear, but is in part a wish, a wish that is so threatening that it feels like a fear. Often there is a multiplier effect. First there is a wish, then there is a fear that we will not be able to resist that wish, then there is the wish to make short shrift of that fear, then there is the fear that our fear may not deter us enough, and so on. This multiplier effect may cause the sensation of a whirlpool, a maelstrom, a vortex that manifests itself as dizziness. Ingrained in the sensation of vertigo is the inclination to give in to it. Vertigo predisposes, as psychoanalysts say, to 'counterphobic' behavior. Giving in to vertigo is a strategy for escaping from an unbearable tension by doing something – by doing what is forbidden, by eating the apple, by

committing an original sin. Vertigo thus is the condition in which we may jump into the unknown, in which we may start to do things that are at odds with what we regard as our identity, in which we put a way of life on the line . . . In this sense vertigo is not just a psychological but also a cultural phenomenon. And, consequently, cultures too can be susceptible to counterphobic behavior. In history, vertigo has the form of the impulse to create accomplished facts, of the determination to leave the beaten track, to stop stumbling along, and to flee forward – straight into the unknown. (Runia, 2010: 17)

The question that requires more detailed analytical scrutiny than Runia has attempted is how, exactly, does vertigo scale up from the individual to the collective, from the personal to the cultural. I offer the following interpretation as a potentially useful complement to the foregoing discussion of the preferential spatial diffusion of surprise through social networks.² Whereas in socio-spatial theory when we think of scale the units that come to mind tend to be the body, the neighborhood, the city, the region, the nation, the continent, and the global, there are other ways to parse the scope one attends to (Herod, 2010; Heynen, 2003; MacKinnon, 2011; Moore, 2008; Neumann, 2009). In literary theory, the entrenched distinction between the lyric, the dramatic, and the epic has often been deployed with a tacit understanding that these three registers constitute three very different, albeit nested, geographical scales (Reed, 1992). The lyric corresponds to the scale of the body, and is the realm of the inward and the incarnate, of personal feelings and personal demons, of subjectivity, of idiosyncratic thought and experience. The dramatic broadens the scope attended to, and includes an assemblage of social actors interacting with one another for varied temporal spans, and changing one another in that process of place-based interaction. The 'affective atmosphere' (Anderson, 2016) of the dramatic may range from tragedy to comedy, but is always underpinned by the

sequences of surprises that the social actors hold in store for one another. If the dramatic is the register of a handful of actors, whose names and relationships to one another the reader can remember (e.g. an opera, a television show, a departmental meeting), the epic register broadens the scope of narrative to whole cultures or communities, and thereby loses track of the individuality of the actors that constitute the Tolstoyan ‘multitude’ or ‘the masses’ (Simandan, 2019a). From the standpoint of the epic, the geographies we need to account for are Hegelian (Bond, 2014). Who we are as individuals is a reflection or refraction of the *Zeitgeist* – the spirit of the times. We are children of our times, which is a metaphor that stands in for the observation that people living in the same place at the same time tend to be interpellated by the same family of ideologies or discourses (Althusser, 1970; Elden, 2007; Philo, 2012; Sevilla-Buitrago, 2017). By being exposed to the same religion, the same language, the same system of formal education, the same popular television shows, the same celebrities, the same traditions, we grow up to be rather similar to one another. We share many beliefs and values, and we partake in the same restricted menu of collective identities (Anderson, 2006; McDonnell et al., 2017). In other words, we are constructed by a time- and place-specific intersection of discursive practices and when we think and act it is the precipitate of those discourses that thinks and acts through us. To put this differently, we are sites of negative agency, in the sense that we are created from without, as ever-provisional mixtures of discourses with varying degrees of (in)coherence.

Through this lens, asking the question of how personal vertigo scales up to cultural vertigo appears to be asking a misleading question. It makes more sense to reason the other way around, of how cultural *ennui*, or ‘structures of feeling’ (Williams, 1977) that hold in their grip a whole generation, scale down to constitute personal, subjective experiencing

(see, for example, Michael Watts’ superb analysis of the year 1968 and the generation that made it count; Watts, 2001; see also Heynen and Rhodes, 2012; Kallio, 2017).

Runia’s account of large-scale social change as the byproduct of impetuous acts of surprising ourselves is startling because it foregrounds existential boredom as the source of collective urgency, recklessness, and impetuosity, and the latter as the engines of historical and geographical mutation. As he put it, ‘far-reaching things can be done “just like that” . . . monstrous historical deeds sometimes are no better motivated than as a giving in to the question “Why not?”’ (Runia, 2010: 11). Boredom³, dullness, awareness of the drudgery of everyday living should not be relegated as ‘first world problems’ or sentiments of the privileged (Amin and Thrift, 2013; Simandan, 2010c, 2018d; Smith and Reid, 2017). They are signals that we have lost our appetite for living and that we owe it to ourselves to refresh that appetite by shaking things up (Ferretti, 2017). Sublime historical events, such as revolutions, need to be seen as ‘cascades of fleeing forward’ (Runia, 2010: 17; cf. Lawson, 2016), which summon their energy from the ‘willingness of a significant number of people to ‘burn their bridges behind them’ and to embark upon the unknown – no matter the consequences’ (2010: 3). To sum up this line of thinking, ‘we may start to make history not despite the fact that it is at odds with – yes, destroys – the stories we live by, but because it destroys the stories we live by’ (2010: 5).

IV Final thoughts

All of the foregoing considerations suggest that the timing is just right for a spatial account of surprise, or rather, for a geography of personal and social change that deploys the trope of surprise *to help explain* how and why change happens. Whether we are surprised by what transpires in our surroundings or we are surprising ourselves in the ‘vertiginous urge to commit

history' (Runia, 2010: 1), to reinvent who and what we are, the common denominator of these processes of becoming is that they produce geographical space and are produced by it.

When studied stripped of its geographical context, in the cognitive science laboratory, surprise misleadingly seems to be a neutral subjective experience. It has already been known that humans tend to locate emotions in their vertical mental space (or imaginative geographies) according to their valence, such that positive emotions (joy, excitement, cheerfulness) are placed in upper locations (e.g. 'Cheer up!') and negative emotions (sadness, boredom, dejection) are placed in lower locations (e.g. 'I am down today'). A recent cross-linguistic study by Marmolejo-Ramos et al. (2016) has shown experimentally that surprise without any further specification is mentally located by research participants mid-way between the upper locations and lower locations. In real life, however, we never encounter surprise in general, as an abstraction (McCormack, 2012). Surprise, in other words, needs geographical contextualization to be appreciated (Simandan, 2002). There are positive surprises and negative surprises, run-of-the-mill surprises and world-changing surprises. Perhaps the most dramatic recent example of a world-changing surprise has been the election of Donald Trump as US president. There is now a growing body of scholarship in political geography attempting to explain the 'Trump phenomenon' and to foster active resistance to its perceived 'neo-Fascist' agenda (Gökariksel and Smith, 2016; Koch, 2017), but the surprisingness of the election as such has remained underappreciated and undertheorized. One very recent exception is Benjaminsen et al. (2018), who try to address the political geography of the Trump phenomenon by drawing on Lauren Berlant's concept of 'impasse' as the best descriptor of the aftermath of a momentous negative surprise: 'a stretch of time in which one moves around with a sense that the world

is at once intensely present and enigmatic' (Berlant, quoted in Benjaminsen et al., 2018: 1).

The topic I addressed is inherently complex, which means that this first presentation of surprise's potential for geography has not allowed me to do justice to a number of important themes. Given space constraints, I will briefly describe just two of them, in the hope that other geographers will join me in researching them.

The first theme revolves around the dark side of surprise. Whereas in this paper I highlighted the life-affirming dimension of surprise, in order to avoid romanticizing surprise one should bear in mind the ubiquitous experiential and political importance of negative surprises (e.g. getting unexpectedly evicted; getting malaria; the 2007–9 financial crisis; the election of a neo-Fascist president, etc.). In other words, when unpacking the phenomenon of surprise, one needs to pay equal attention to its reactionary and revolutionary potentialities. Relatedly, much of the academic research on surprise reviewed in this paper originates from the cognitive sciences. Their positivistic epistemological background may have led to accounts of surprise that underplay the politics of the discursive construction of surprise. If an actor responsible for an event succeeds in framing it as 'surprising', it thereby often succeeds in diverting culpability, since 'no one could have seen it coming'. In this vein, the moral-political stance of critical geographers might explain why they may have underplayed the element of surprise (or seen it as a political fabrication) in scholarly discussions of the 2007–9 financial crisis and of the election of Trump as US president. Geographers, in other words, have an important contribution to make in situating and politicizing surprise by: (a) problematizing the positivistic and universalist research paradigms of surprise in the cognitive sciences (e.g. Pykett, 2018; Simandan, 2019b), (b) exploring the relationship between surprise and social difference (how do differently raced, gendered, and classed subjects experience different kinds of

surprises, and what can we learn about the spatialities of intersectionality if we take the trope of surprise as an analytical entry point; cf. Hopkins, 2017, 2018), and (c) attending to how the phenomenon of surprise is being used for political manipulation and economic gain. Indeed, as the recent review by Loewenstein (2018) has shown, scientific research on surprise has taken a very lucrative turn, with an explicit focus on developing ‘recipes for surprise’ that can be deployed for advertising, brand promotion, viral marketing, and other forms of profit seeking. Geographers are well positioned to critique these practices, given their thriving research programs on ‘nudging’ and the libertarian paternalism of applied cognitive science (e.g. Pykett, 2018; Reid and Ellsworth-Krebs, 2018; Whitehead et al., 2018).

The second theme I have in mind for developing the problematic of surprise beyond this first presentation involves the deepening and refining of the spatial account of surprise. In my contribution, I have offered some initial lines of thinking about surprise geographically, by analyzing the phenomenon of surprise through three key geographical concepts: ‘environment’ (the discussion of rich and durably textured environments and their role in occasioning surprise), ‘spatial diffusion’ (the discussion of the preferential sharing and spreading of surprising content in actor-networks / social networks as a key mechanism articulating personal change with social change), and ‘scale’ (the discussion of negative agency and the top-down shaping of individual subjectivities by the broader *Zeitgeist*). I hope that other geographers will join me in fleshing out this spatial account of surprise more fully by: (a) analyzing surprise through the lens of other key geographical concepts such as distance (Simandan, 2016), place (Cresswell, 2014), space (Massey, 2005), or TimeSpace (May and Thrift, 2001), (b) investigating the spatialities of surprise by articulating this problematic with the fascinating network of related concepts discussed in the introduction

(the event, futurities and anticipation, boredom, whimsy, curiosity, interruption, enchantment, etc.), and (c) leveraging the tools of quantitative spatial analysis to add precision to our still inchoate understanding of the preferential diffusion of surprising information in social networks, across, and through, geographical space.

Each one of us surprises space and is surprised by it in a triple quality (McAdams, 2013): as motivated agents (i.e. entities whose values and motivations are crystallized into goals and projects for a desirable future), as social actors (i.e. social animals co-constructing social space and ourselves through interaction with others), and as autobiographical authors (i.e. writers and editors of our own biography). If boredom ‘stills and slows time–space’ (Anderson, 2004: 739), surprise revitalizes it. A geography of how that happens is long overdue.


Declaration of conflicting interests

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

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by Insight Grant 435-2013-0161, of the Social Sciences and Humanities Research Council of Canada.

ORCID iD

Dragos Simandan  <https://orcid.org/0000-0002-0293-3264>

Notes

1. By ‘production of space’ I refer to Lefebvre’s thesis that space is not a pre-existing container for social life, but that society and space are mutually constituted (Lefebvre, 1991; see also Doel, 1999, and Massey, 2005).
2. There is a need for a geographical development of Runia’s philosophy of history, and the scale-based version that I offer is only one of many alternatives.

3. Framing surprise as the antithesis of boredom (or solution to existential dullness) has been one of the recurring themes in this paper because: (1) it creates an opening for the potentially productive articulation of the proposed research program on the geographies of surprise with prior geographical work on boredom (e.g. Anderson, 2004); (2) it is the dominant framing deployed by Ainslie (2003, 2013), whose geographical discussion of surprise in terms of ‘rich and textured environments’ helps build the case for a spatial account of surprise; (3) it is an analytical entry point into Runia’s philosophy of history (2010, 2014), whose account of social change can be spatialized through the lens of geographical scale; and (4) in a recursive or meta-theoretical fashion, this framing is itself surprising to current geographical accounts of social change, which tend to emphasize more conventional drivers of ‘reckless impetuosity’ or revolutionary triggers such as oppression, poverty, and desperation (e.g. Harvey, 2014). Exploring surprise as the antithesis to boredom should thus be understood against the larger consideration that there is much more to the phenomenon of surprise than this particular reading.

References

- Adams PC (2017) Geographies of media and communication I: Metaphysics of encounter. *Progress in Human Geography* 41(3): 365–374.
- Ainslie G (2003) Uncertainty as wealth. *Behavioural Processes* 64(3): 369–385.
- Ainslie G (2013) Grasping the impalpable: The role of endogenous reward in choices, including process addictions. *Inquiry* 56(5): 446–469.
- Althusser L (1970) Ideology and ideological state apparatuses. In: Althusser L, *Lenin and Philosophy and Other Essays*, trans. Brewster B. New York: Monthly Review Press, pp. 121–176.
- Amin A (2013) Surviving the turbulent future. *Environment and Planning D: Society and Space* 31(1): 140–156.
- Amin A and Thrift N (2013) *Arts of the Political: New Openings for the Left*. Durham: Duke University Press.
- Anderson B (2004) Time-stilled space-slowed: How boredom matters. *Geoforum* 35(6): 739–754.
- Anderson B (2006) *Imagined Communities: Reflections on the Origin and Spread of Nationalism (new edn)*. New York: Verso Books.
- Anderson B (2010) Preemption, precaution, preparedness: Anticipatory action and future geographies. *Progress in Human Geography* 34(6): 777–798.
- Anderson B (2016) Neoliberal affects. *Progress in Human Geography* 40(6): 734–753.
- Anderson B (2018) Cultural geography II: The force of representations. *Progress in Human Geography*. DOI: 10.1177/0309132518761431.
- Anderson B and Adey P (2012) Future geographies. *Environment and Planning A* 44(7): 1529–1535.
- Anderson B and Harrison P (eds) (2010) *Taking-Place: Non-Representational Theories and Human Geography*. London: Ashgate.
- Ash J and Simpson P (2016) Geography and post-phenomenology. *Progress in Human Geography* 40(1): 48–66.
- Baldi P and Itti L (2010) Of bits and wows: A Bayesian theory of surprise with applications to attention. *Neural Networks* 23(5): 649–666.
- Barnett C (2018) Geography and the priority of injustice. *Annals of the American Association of Geographers* 108(2): 317–326.
- Benjaminsen T, Buhaug H, Grove K, McConnell F and Steinberg P (2018) Political geography in the impasse. *Political Geography* 62: A1–A2.
- Bennett J (2001) *The Enchantment of Modern Life: Attachments, Crossings, and Ethics*. Princeton, NJ: Princeton University Press.
- Bietti LM, Tilston O and Bangerter A (2018) Storytelling as adaptive collective sensemaking. *Topics in Cognitive Science*. DOI: 10.1111/tops.12358.
- Blum V and Secor A (2011) Psychotopologies: Closing the circuit between psychic and material space. *Environment and Planning D: Society and Space* 29(6): 1030–1047.
- Bond DW (2014) Hegel’s geographical thought. *Environment and Planning D: Society and Space* 32(1): 179–198.
- Bondi L (2014) Understanding feelings: Engaging with unconscious communication and embodied knowledge. *Emotion, Space and Society* 10: 44–54.
- Bonnett A (2017) The enchanted path: Magic and modernism in psychogeographical walking. *Transactions of the Institute of British Geographers* 42(3): 472–484.
- Boschma R (2017) Relatedness as driver of regional diversification: A research agenda. *Regional Studies* 51(3): 351–364.
- Boschma R and Martin R (2007) Constructing an evolutionary economic geography. *Journal of Economic Geography* 7: 537–548.

- Brown G, Kraftl P, Pickerill J and Upton C (2012) Holding the future together: Towards a theorisation of the spaces and times of transition. *Environment and Planning A* 44(7): 1607–1623.
- Buser M (2017) Atmospheres of stillness in Bristol's Bearpit. *Environment and Planning D: Society and Space* 35(1): 126–145.
- Christophers B (2015) Geographies of finance II: Crisis, space and political-economic transformation. *Progress in Human Geography* 39(2): 205–213.
- Clark A (2013) Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behavioral and Brain Sciences* 36(3): 181–204.
- Clough NL (2012) Emotion at the center of radical politics: On the affective structures of rebellion and control. *Antipode*, 44(5): 1667–1686.
- Collard R-C, Dempsey J and Sundberg J (2015) A manifesto for abundant futures. *Annals of the Association of American Geographers* 105(2): 322–330.
- Cresswell T (2014) *Place: An Introduction*. New York: John Wiley & Sons.
- Danyluk M (2018). Capital's logistical fix: Accumulation, globalization, and the survival of capitalism. *Environment and Planning D: Society and Space* 36(4): 630–647.
- Dawney L (2013) The interruption: Investigating subjectivation and affect. *Environment and Planning D: Society and Space* 31(4): 628–644.
- Deutsche R (1995) Surprising geography. *Annals of the Association of American Geographers* 85(1): 168–175.
- Dilkes-Frayne E and Duff C (2017) Tendencies and trajectories: The production of subjectivity in an event of drug consumption. *Environment and Planning D: Society and Space* 35(5): 951–967.
- Dittmer J (2014) Geopolitical assemblages and complexity. *Progress in Human Geography* 38: 385–401.
- Doel MA (1999) *Poststructuralist Geographies: The Diabolical Art of Spatial Science*. Lanham: Rowman & Littlefield.
- Elden S (2007) Governmentality, calculation, territory. *Environment and Planning D: Society and Space* 25(3): 562–580.
- Elster J (2009) Urgency. *Inquiry* 52(4): 399–411.
- Emmerson P (2018) From coping to carrying on: A pragmatic laughter between life and death. *Transactions of the Institute of British Geographers*. DOI: 10.1111/tran.12252.
- Ferretti F (2017) Evolution and revolution: Anarchist geographies, modernity and poststructuralism. *Environment and Planning D: Society and Space* 35(5): 893–912.
- French S, Leyshon A and Thrift N (2009) A very geographical crisis: The making and breaking of the 2007–2008 financial crisis. *Cambridge Journal of Regions, Economy and Society* 2(2): 287–302.
- Friston K, Rigoli F, Ognibene D, Mathys C, Fitzgerald T and Pezzulo G (2015) Active inference and epistemic value. *Cognitive Neuroscience* 6(4): 187–214.
- Fusco G, Caglioni M, Emsellem K, Merad M, Moreno D and Voiron-Canicio C (2017) Questions of uncertainty in geography. *Environment and Planning A* 49(10): 2261–2280.
- Futrell R (2011) Expecting the unexpected and the unsurprisingly surprising: How the expectation of informativity shapes linguistic processing. *Discourse Analysis*.
- Geoghegan H and Woodyer T (2014) Cultural geography and enchantment: The affirmative constitution of geographical research. *Journal of Cultural Geography* 31(2): 218–229.
- Gökarkırsel B and Smith S (2016) 'Making America great again?': The fascist body politics of Donald Trump. *Political Geography* 54: 79–81.
- Haggett P (1994) Prediction and predictability in geographical systems. *Transactions of the Institute of British Geographers NS* 19: 6–20.
- Hagerstrand T (1953) *Innovations for loppet ur korologisk synpunkt [Innovation diffusion as a spatial process]*. Meddelanden fran Lunds Universitets Geografiska Institutioner, Ser. Avhandlingar 25.
- Häkli J and Kallio KP (2014) Subject, action and polis: Theorizing political agency. *Progress in Human Geography* 38(2): 181–200.
- Harrison P (2008) Corporeal remains: Vulnerability, proximity, and living on after the end of the world. *Environment and Planning A* 40(2): 423–445.
- Harvey D (2014) *Seventeen Contradictions and the End of Capitalism*. New York: Oxford University Press
- Herod A (2010) *Scale*. London: Routledge.
- Heynen N (2003) The scalar production of injustice within the urban forest. *Antipode* 35(5): 980–998.
- Heynen N and Rhodes J (2012) Organizing for survival: From the civil rights movement to Black Anarchism through the life of Lorenzo Kom'boa Ervin. *ACME: An International Journal for Critical Geographies* 11(3): 393–412.

- Heynen N, Kent A, McKittrick K, Gidwani V and Lerner W (2017) Neil Smith's long revolutionary imperative. *Antipode* 49(S1): 5–18.
- Hopkins P (2017) Social geography I: Intersectionality. *Progress in Human Geography*. DOI: 10.1177/0309132517743677.
- Hopkins P (2018) Feminist geographies and intersectionality. *Gender, Place & Culture* 25(4): 585–590.
- Horton J and Kraftl P (2009) Small acts, kind words and 'not too much fuss': Implicit activism. *Emotion, Space and Society* 2(1): 14–23.
- Hu C (2018) 'A jungle that is continually encroaching': The time of disaster management. *Environment and Planning D: Society and Space* 36(1): 96–113.
- Johnston R and Sidaway JD (2016) *Geography and Geographers: Anglo-American Human Geography since 1945, 7th edn*. London: Routledge.
- Johnston R, Harris R, Jones K, Manley D, Wang WW and Wolf L (2018) Quantitative methods I: The world we have lost – or where we started from. *Progress in Human Geography*. DOI: 10.1177/0309132518774967.
- Kagan J (2009) Categories of novelty and states of uncertainty. *Review of General Psychology* 13(4): 290–301.
- Kallio KP (2017) Shaping subjects in everyday encounters: Intergenerational recognition in intersubjective socialisation. *Environment and Planning D: Society and Space* 35(1): 88–106.
- Kingsbury P and Pile S (eds) (2016) *Psychoanalytic Geographies*. London: Routledge.
- Kinsley S (2011) Anticipating ubiquitous computing: Logics to forecast technological futures. *Geoforum* 42(2): 231–240.
- Koch N (2017) Orientalizing authoritarianism: Narrating US exceptionalism in popular reactions to the Trump election and presidency. *Political Geography* 58: 145–147.
- Krupar S and Ehlers N (2017) Biofutures: Race and the governance of health. *Environment and Planning D: Society and Space* 35(2): 222–240.
- Kwan MP and Schwanen T (2018) Context and uncertainty in Geography and GIScience: Advances in theory, method, and practice. *Annals of the American Association of Geographers*. DOI: 10.1080/24694452.2018.1457910.
- Larsen JT and McGraw AP (2011) Further evidence for mixed emotions. *Journal of Personality and Social Psychology* 100(6): 1095–1110.
- Larsen SC and Johnson JT (2012) Toward an open sense of place: Phenomenology, affinity, and the question of being. *Annals of the Association of American Geographers* 102(3): 632–646.
- Last A (2017) Re-reading worldliness: Hannah Arendt and the question of matter. *Environment and Planning D: Society and Space* 35(1): 72–87.
- Lawson G (2016) Within and beyond the 'fourth generation' of revolutionary theory. *Sociological Theory* 34(2): 106–127.
- Lee R (1976) Surprise and counter-production in radical geography. *Area* 8(1): 11–14.
- Lefebvre H (1991) *The Production of Space*. Oxford: Blackwell.
- Leotti LA, Iyengar SS and Ochsner KN (2010) Born to choose: The origins and value of the need for control. *Trends in Cognitive Sciences* 14(10): 457–463.
- Little D (2000) Explaining large-scale historical change. *Philosophy of the Social Sciences* 30(1): 89–112.
- Loewenstein J (2018) Surprise, recipes for surprise, and social influence. *Topics in Cognitive Science*. DOI: 10.1111/tops.12312.
- Macedo L and Cardoso A (2018) A contrast-based computational model of surprise and its applications. *Topics in Cognitive Science*. DOI: 10.1111/tops.12310.
- Mackenzie FD (2007) Cultural geographies in practice: The story(ing) of Jessie of Balranald: Research encounters of a surprising kind. *Cultural Geographies* 14(3): 445–452.
- MacKinnon D (2011) Reconstructing scale: Towards a new scalar politics. *Progress in Human Geography* 35(1): 21–36.
- Malpas J (2012) Putting space in place: Philosophical topography and relational geography. *Environment and Planning D: Society and Space* 30(2): 226–242.
- Mann J (2015) Towards a politics of whimsy: Yarn bombing the city. *Area* 47(1): 65–72.
- Marmolejo-Ramos F, Correa JC, Sakarkar G, Ngo G, Ruiz-Fernández S, Butcher N and Yamada Y (2016) Placing joy, surprise and sadness in space: A cross-linguistic study. *Psychological Research* 81(4): 750–763.
- Massey D (2005) *For Space*. London: SAGE.
- May J and Thrift N (2001) Introduction. In: May J and Thrift N (eds) *Timespace: Geographies of Temporality* London: Routledge, 1–37

- McAdams DP (2013) The psychological self as actor, agent, and author. *Perspectives on Psychological Science* 8(3): 272–295.
- McCormack DP (2012) Geography and abstraction: Towards an affirmative critique. *Progress in Human Geography* 36(6): 715–734.
- McCormack DP (2017) The circumstances of post-phenomenological life worlds. *Transactions of the Institute of British Geographers* 42: 2–13.
- McDonnell TE, Bail CA and Tavory I (2017) A theory of resonance. *Sociological Theory* 35(1): 1–14.
- Merrifield A (2011) *Magical Marxism: Subversive Politics and the Imagination*. London: Pluto Press.
- Merriman P (2018) Molar and molecular mobilities: The politics of perceptible and imperceptible movements. *Environment and Planning D: Society and Space*. DOI: 10.1177/0263775818776976.
- Miller M and Clark A (2017) Happily entangled: Prediction, emotion, and the embodied mind. *Synthese* 195(6): 2559–2575.
- Mills S (2013) Surprise! Public historical geographies, user engagement and voluntarism. *Area* 45(1): 16–22.
- Mitchell K (2010) Pre-Black futures. *Antipode* 41: 239–261.
- Moore A (2008) Rethinking scale as a geographical category: From analysis to practice. *Progress in Human Geography* 32(2): 203–225.
- Moss P and Donovan C (eds) (2017) *Writing Intimacy into Feminist Geography*. London: Routledge.
- Müller M and Schurr C (2016) Assemblage thinking and actor-network theory: Conjunctions, disjunctions, cross-fertilisations. *Transactions of the Institute of British Geographers* 41: 217–229.
- Neisser F and Runkel S (2017) The future is now! Extrapolated riskscape, anticipatory action and the management of potential emergencies. *Geoforum* 82: 170–179.
- Nelson GD (2018) Mosaic and tapestry: Metaphors as geographical concept generators. *Progress in Human Geography*. DOI: 10.1177/0309132518788951.
- Neumann RP (2009) Political ecology: Theorizing scale. *Progress in Human Geography* 33(3): 398–406.
- Nicholls W (2008) Place, networks, space: Theorising the geographies of social movements. *Transactions of the Institute of British Geographers* 34(1): 78–93.
- Robert S and Pelling M (2017) What can adaptation to climate-related hazards tell us about the politics of time making? Exploring durations and temporal disjunctures through the 2013 London heat wave. *Geoforum* 85: 122–130.
- Olson E (2015) Geography and ethics I: Waiting and urgency. *Progress in Human Geography* 39(4): 517–526.
- Olund E (2017) Multiple racial futures: Spatio-temporalities of race during World War I. *Environment and Planning D: Society and Space* 35(2): 281–298.
- Oswin N (2014) Queer time in global city Singapore: Neoliberal futures and the ‘freedom to love’. *Sexualities* 17(4): 412–433.
- Phillips R (2014) Space for curiosity. *Progress in Human Geography* 38(4): 493–512.
- Phillips R, Evans B and Muirhead S (2015) Curiosity, place and wellbeing: Encouraging place-specific curiosity as a ‘way to wellbeing’. *Environment and Planning A* 47(11): 2339–2354.
- Philo C (2012) A ‘new Foucault’ with lively implications – or ‘the crawfish advances sideways’. *Transactions of the Institute of British Geographers* 37(4): 496–514.
- Pierce J, Martin DG and Murphy JT (2011) Relational place-making: The networked politics of place. *Transactions of the Institute of British Geographers NS* 36(1): 54–70.
- Pile S (2010) Emotions and affect in recent human geography. *Transactions of the Institute of British Geographers* 35(1): 5–20.
- Prudham S and Heynen N (2011) Introduction: Uneven development 25 years on: Space, nature and the geographies of capitalism. *New Political Economy* 16(2): 223–232.
- Pykett J (2018) Geography and neuroscience: Critical engagements with geography’s ‘neural turn’. *Transactions of the Institute of British Geographers* 43(2): 154–169.
- Pyszczynski T, Solomon S and Greenberg J (2015) Thirty years of terror management theory: From Genesis to Revelation. *Advances in Experimental Social Psychology* 52: 1–70.
- Quoidbach J, Gilbert D and Wilson T (2013) The end of history illusion. *Science* 339(6115): 96–98.
- Reed MA (1992) Exploring lyric, epic, and dramatic voices: Stages of incandescence in the poetry of the aged. *Journal of Poetry Therapy* 5(4): 197–218.
- Reid L and Ellsworth-Krebs K (2018) Nudge(ography) and practice theories: Contemporary sites of behavioural science and post-structuralist approaches in

- geography? *Progress in Human Geography*. DOI: 10.1177/0309132517750773.
- Reisenzein R, Horstmann G and Schützwahl A (2018) The cognitive-evolutionary model of surprise: A review of the evidence. *Topics in Cognitive Science*. DOI: 10.1111/tops.12292.
- Rheingold HL (1985) Development as the acquisition of familiarity. *Annual Review of Psychology* 36(1): 1–18.
- Romanillos JL (2015) Mortal questions: Geographies on the other side of life. *Progress in Human Geography* 39(5): 560–579.
- Runia E (2010) Into cleanness leaping: The vertiginous urge to commit history. *History and Theory* 49(1): 1–20.
- Runia E (2014) *Moved by the Past: Discontinuity and Historical Mutation*. New York: Columbia University Press.
- Savage SL (2009) *The Flaw of Averages: Why We Underestimate Risk in the Face of Uncertainty*. New York: John Wiley & Sons.
- Schurr C (2017) From biopolitics to bioeconomies: The ART of (re-)producing white futures in Mexico's surrogacy market. *Environment and Planning D: Society and Space* 35(2): 241–262.
- Schwanen T (2018) Thinking complex interconnections: Transition, nexus and geography. *Transactions of the Institute of British Geographers* 43(2): 262–283.
- Sevilla-Buitrago A (2017) Gramsci and Foucault in Central Park: Environmental hegemonies, pedagogical spaces and integral state formations. *Environment and Planning D: Society and Space* 35(1): 165–183.
- Shaw IG (2012) Towards an evental geography. *Progress in Human Geography* 36(5): 613–627.
- Simandan D (2002) On what it takes to be a good geographer. *Area* 34(3): 284–293.
- Simandan D (2010a) Roads to perdition in the knowledge economy. *Environment and Planning A* 42(7): 1519–1520.
- Simandan D (2010b) Beware of contingency. *Environment and Planning. D: Society and Space* 28(3): 388–396.
- Simandan D (2010c) On how much one can take: Relocating exploitation and exclusion within the broader framework of allostatic load theory. *Health & Place* 16(6): 1291–1293.
- Simandan D (2011a) Kinds of environments: A framework for reflecting on the possible contours of a better world. *The Canadian Geographer/Le Géographe canadien* 55(3): 383–386.
- Simandan D (2011b) The wise stance in human geography. *Transactions of the Institute of British Geographers* 36(2): 188–192.
- Simandan D (2011c) Is engaged pluralism the best way ahead for economic geography? Commentary on Barnes and Sheppard (2009). *Progress in Human Geography* 35(4): 568–572.
- Simandan D (2016) Proximity, subjectivity, and space: Rethinking distance in human geography. *Geoforum* 75: 249–252.
- Simandan D (2017) Demonic geographies. *Area* 49(4): 503–509.
- Simandan D (2018a) Competition, contingency, and destabilization in urban assemblages and actor-networks. *Urban Geography* 39(5): 655–666.
- Simandan D (2018b) Iterative lagged asymmetric responses in strategic management and long-range planning. *Time & Society*. DOI: 10.1177/0961463X17752652.
- Simandan D (2018c) Wisdom and foresight in Chinese thought: Sensing the immediate future. *Journal of Futures Studies* 22(3): 35–50.
- Simandan D (2018d) Rethinking the health consequences of social class and social mobility. *Social Science & Medicine* 200: 258–261.
- Simandan D (2019a) Revisiting positionality and the thesis of situated knowledge. *Dialogues in Human Geography* 9(2): 129–149.
- Simandan D (2019b) Competition, delays, and coevolution in markets and politics. *Geoforum* 98: 15–24.
- Simon S and Randalls S (2016) Geography, ontological politics and the resilient future. *Dialogues in Human Geography* 6(1): 3–18.
- Smith M, Davidson J and Henderson VL (2012) Spiders, Sartre and 'magical geographies': The emotional transformation of space. *Transactions of the Institute of British Geographers* 37(1): 60–74.
- Smith S (2013) 'In the heart, there's nothing': Unruly youth, generational vertigo and territory. *Transactions of the Institute of British Geographers* 38(4): 572–585.
- Smith S and Vasudevan P (2017) Race, biopolitics, and the future: Introduction to the special section. *Environment and Planning D: Society and Space* 35(2): 210–221.
- Smith TS and Reid L (2017) Which 'being' in wellbeing? Ontology, wellness and the geographies of happiness. *Progress in Human Geography*. DOI: 10.1177/0309132517717100.

- Springer S, Ince A, Pickerill J, Brown G and Barker AJ (2012) Reanimating anarchist geographies: A new burst of colour. *Antipode* 44(5): 1591–1604.
- Storper M (2011) Why do regions develop and change? The challenge for geography and economics. *Journal of Economic Geography* 11(2): 333–346.
- Taleb NN (2007) *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.
- Taleb NN (2012) *Antifragile: Things that Gain from Disorder*. New York: Random House.
- Thrift N (1999) Steps to an ecology of place. In: Allen J, Massey D and Sarre P (eds) *Human Geography Today*. Cambridge: Polity Press, 295–322.
- Thrift N (2008) *Non-Representational Theory: Space, Politics, Affect*. London: Routledge.
- Tucker JL (2017) Affect and the dialectics of uncertainty: Governing a Paraguayan frontier town. *Environment and Planning D: Society and Space* 35(4): 733–751.
- Vannini P (ed.) (2015) *Non-representational Methodologies: Re-envisioning Research*. London: Routledge.
- Wang SH (2017) Fetal citizens? Birthright citizenship, reproductive futurism, and the ‘panic’ over Chinese birth tourism in southern California. *Environment and Planning D: Society and Space* 35(2): 263–280.
- Watts M (2001) 1968 and all that . . . *Progress in Human Geography* 25(2): 157–188.
- Whitehead M, Jones R, Lilley R, Howell R and Pykett J (2018) Neuroliberalism: Cognition, context, and the geographical bounding of rationality. *Progress in Human Geography*. DOI: 10.1177/0309132518777624.
- Wilkinson E (2009) The emotions least relevant to politics? Queering autonomous activism. *Emotion, Space and Society* 2(1): 36–43.
- Wilkinson E (2017) On love as an (im)properly political concept. *Environment and Planning D: Society and Space* 35(1): 57–71.
- Williams R (1977) Structures of feeling. *Marxism and Literature* 1: 128–135.
- Wilson HF (2017) On geography and encounter. Bodies, borders, and difference. *Progress in Human Geography* 41(4): 451–471.
- Wilson TD (2002) *Strangers to Ourselves*. Cambridge, MA: Harvard University Press.
- Wilson TD and Gilbert DT (2008) Explaining away: A model of affective adaptation. *Perspectives on Psychological Science* 3(5): 370–386.
- Woodyer T and Geoghegan H (2013) (Re) enchanting geography? The nature of being critical and the character of critique in human geography. *Progress in Human Geography* 37(2): 195–214.
- Woodward K, Jones III JP and Marston SA (2012) The politics of autonomous space. *Progress in Human Geography* 36(2): 204–224.
- Worth N (2009) Understanding youth transition as ‘becoming’: Identity, time and futurity. *Geoforum* 40(6): 1050–1060.
- Wright S, Suchet-Pearson S, Lloyd K, Burarrwanga L, Ganambarr R, Ganambarr-Stubbs M, Ganambarr B, Maymuru D and Sweeney J (2016) Co-becoming Bawaka: Towards a relational understanding of place/space. *Progress in Human Geography* 40(4): 455–475.

Author biography

Dragos Simandan completed his PhD at the University of Bristol, UK, under the supervision of Nigel Thrift and Ron Johnston (2000–2004), and currently works as a Professor of Geography at Brock University, Canada. His research interests are in the philosophy of the social sciences, economics, human geography, and social theory. One of his key recent contributions is “Revisiting positionality and the thesis of situated knowledge”, forthcoming in *Dialogues in Human Geography* as an anchor article for a broader debate with invited scholars in the field.