Explaining Behaviour in Economic Geography: The Cognition-Context Nexus

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Abstract. Explaining patterns of behaviour is one of the key ‘problems’ animating contemporary economic geography. Whereas there is some antipathy in the field to the behavioural revolution led by Kahneman and Tversky, it is argued that a rapprochement is possible which would be mutually beneficial. This involves reconsidering the interaction between cognition and context in the light of recent developments in the cognitive sciences that favour a ‘sampling’ approach to conceptualising how individuals acquire and use information in decision-making. Reference is made to the literature in economic geography, and the argument is illustrated using published and unpublished research on patterns of decision-making. Implications are drawn for a behaviourally-inspired economic geography.

Key Words. Behaviour, cognition, context, economic geography

JEL Codes. D14, D91, R12

Acknowledgements. This paper was promoted by discussion with Julie Agnew, Maurizio Faschetti, Paul Gerrans, Stefania Innocenti, Sarah McGill, Olivia Mitchell, Elke Weber, and the late John Marshall about the nature and scope of individual financial decision-making. I have also benefited from advice on theories of cognition and behaviour from Nick Chater, Mike Oaksford and Dane Rook. Thanks also go to Marcel Metzner for research assistance and to Selina Cohen and Jennifer Sabourin for comments and corrections on previous drafts of the paper. None of the above should be held responsible for any errors or omissions.
**Disclosure Statement.** Funding for research on financial decision-making reported herein was first provided by the Monash-CSIRO project administered through the Melbourne Financial Center, and the on-going research program on financial literacy and the demand for insurance funded by Zürich Insurance. The author is wholly responsible for the argument presented herein along with the related research papers derived from both projects. The sponsors have had no influence direct or indirect on the framing of the argument presented and have no claim on the implications drawn thereof.
1. Introduction

For many economic geographers, individual behaviour is best understood by history and geography. More often than not, observed patterns of individual behaviour are ‘explained’ by the context in which people frame options and make decisions about their current and expected well-being (Clark 2018a). This is not only common in economic geography; it is entrenched in behavioural psychology even if researchers in this field are more often concerned about the design of testing procedures holding context constant than the interaction between cognition and context. But see Fan and Xiao (2006), Weber and Hsee (1998), and Henrich et al. (2005) for cross-country studies of behavioural traits using experimental procedures.

We run the risk of environmental determinism when assuming that individual behaviour is always and everywhere driven by context. Economic geographers are alert to the danger – as the history of the discipline shows, environmental determinism is a barrier to academic respectability; something other disciplines have resolutely avoided by idealising the individual (as in mainstream economics) and/or by invoking culture, social structure, and institutions (as in respectively anthropology, sociology, and political science). In a similar manner, economic geographers have incorporated context into explanations of behaviour emphasizing; for example, region-specific norms and conventions that frame but do not determine behaviour (see Storper 2003 on the Third Italy).

By contrast, economic theorists tend to hold to strong versions of agent rationality such that whatever an individual’s context it is assumed that people maximise their expected utility. As originally conceived, Samuelson (1937) had little to say about the origin of individuals’ utility functions preferring, as much as possible, to focus on the process whereby people make decisions rather than the specifics of those decisions. Being agnostic about outcomes, rationality was deemed to trump context. In effect, context was treated as ephemeral,

\[1/\] Throughout, I refer to ‘context’ rather than Simon’s (1956) ‘environment’ following convention in economic geography (see Gertler 2003), and because ‘environment’ is now inextricably linked with the Anthropocene (Clark 2018b). Context has ontological status in philosophy of the mind and refers to that which “is partly constitutive of an individual’s mental life” (Pettit and McDowell 1986, 10).
coming second to a form of theorising that idealises individual rationality over their lived circumstances (compare Thaler 2018 with Becker and Murphy 1988).

Formal models of economic behaviour begin with the rational agent and the implications to be derived in relation to specific issues. At the margin, complications are introduced including cognitive limits on agents’ reasoning (see Ellison and Ellison 2004). In doing so, the conventions dictating the production of theory are honoured while giving ground on the applicability of theoretical logic to particular cases or instances. The plausibility of this analytical approach was undercut by the behavioural revolution initiated by Simon (1956) and substantiated by Kahneman and Tversky (1979). They challenged the rational agent model by focusing upon cognition and by challenging fundamental assumptions made about how individuals process information when making decisions (see also Thaler 2015 on his campaign to make sense of observed behaviour).

Economic geographers have been ambivalent about these developments. Those who give priority to local culture, formal and informal rules, and the role of institutions in explaining behaviour have tended to ignore the implications of behaviourism. Equally, those who prioritise fieldwork, case studies, and observing the nitty-gritty of everyday behaviour are doubtful about the value of laboratory tests of decision-making that claim universality (Clark 2014). Then there are those who suggest that the renewed focus on individual behaviour is a form of neoliberal transcendentalism that undercuts the hard-won successes of economic geography and related disciplines (Pykett 2013).²

The goal of this paper is to prompt a reconceptualization of individual behaviour in economic geography along the lines suggested by the behavioural revolution (see Strauss 2008, 2009). In doing so, I critically assess various approaches to behaviour taking into

². But see also Webber and Prouse’s (2017) review of the increasing importance of randomised control trials in evaluating economic development strategies and its implications for economic geography. Levitt and List (2007) have a helpful intervention on the advantages of laboratory experiments, their limits, and in particular, the translation of these testing procedures into different circumstances.
account both inputs (the interaction between cognition and context) and outputs (geographical patterns of observed behaviour). At one level, this is a project that reaches into philosophical traditions anchored in the enlightenment, 19th-century liberalism, and late 20th-century subjectivism (Taylor 1990). At another level, there is a danger with focusing upon the individual to the exclusion of society especially when this type of research is taken to represent the larger political agenda oftentimes identified as neoliberalism (Peck 2010; see also Chambers 2018). For some, individualism and nationalism are two sides of the same coin wherein identity politics and nativism have conspired to discount social cohesion and make ‘others’ into enemies (Fox 2012).

The paper begins with a brief overview of economic geographers’ treatment of individual behaviour. Herbert Simon (1956) is often cited even if there is debate about how to connect cognition with context in a viable theoretical manner. The third section of the paper focuses upon recent developments in cognitive science that suggest people, more often than not, sample the environment (Fiedler and Juslin 2006). This research program has significant implications for economic geography even if scholars working in this program are often wedded to a model of behaviour that is more analytical than grounded in empirical research at the intersection of cognition and context. Links are made between the sampling paradigm and the interests of economic geographers in explaining behaviour by ‘embeddedness’ whether institutional, organizational, cultural and/or relational (see Andersson and Larsson 2016; Bathelt and Glückler 2011; Grabher 1993).³

The fourth section of the paper switches to the claimed existence of distinctive ecologies of behaviour. Economic geographers have identified systematic patterns of behaviour that go beyond who people are by virtue of their age, gender, socio-economic status et cetera. This is both representative of the conventions underpinning the discipline and is empirically-justified by often stark differences between regions of countries in terms of individuals’

³/ The field of cognitive science and behavioural psychology is fertile ground for all manner of interventions in the social sciences, not in just economics and economic geography. See Pykett (2018, 154) on the implications of Andy Clark’s (2016) treatise on the embodied mind and his assertion that humans are everywhere planning creatures. As she notes, human geographers have had a deep and abiding interest in “the relationship between the mind…and the world”.
quality of life holding constant socio-economic status. A series of examples are used to illustrate this point drawing upon published research on the UK incidence of gambling (see Social Market Foundation 2016) and regional patterns of educational.

The fifth section turns to the status of the individual in theory, and in relation to recent research on individual consciousness. Samuelson’s (1937) idea that there is a constant ‘inner self’ that guides decision-making is challenged and implications drawn for the relationship between cognition and context. This is followed by section six where it is suggested that there are lessons in these developments for the significance of ‘materiality’ in economic geography and beyond (see Strauss and Meehan 2017). Here, it is noted that human traits are mediated by social institutions and culture, noting recent research in cognitive psychology that provides evidence as to the strength of these effects. This argument is illustrated using the results of a cross-country research program on the demand for insurance (Clark et al. 2017).

The paper closes with a set of implications for future research. To demonstrate the reach of the paper, various issues are discussed including the status of the individual in theory—economic geography and cognate disciplines—and in practice. It is observed that one implication to be drawn is that ‘context’ is almost everything: at the limit, individuals could be conceptualised as cyphers rather than the liberal ideal of autonomous and self-conscious beings. A related implication concerns the ‘power’ of context in shaping desirable social outcomes. This is implicit in the ‘nudge’ program driving public policy (Thaler and Sunstein 2008). Nonetheless, significant questions remain as to the relative status of conscious agency as opposed to context-responsive behaviour.

2. Behaviour, economics and geography

The field of economic geography is diverse, multifaceted, and variable in focus notwithstanding the threads that bind it together. Scholars come to the sub-discipline from a variety of backgrounds including economics, human geography, sociology, anthropology, and political science and, increasingly, business schools, city and regional planning
programs, and public policy programs. Whereas there are textbooks devoted to economic geography, it is as much a way of looking at the world as it is a set of concepts and tools that can be picked-off the shelf and applied to any number of problems (Arnott and Wrigley 2001).

In terms of the threads binding it together, there are two ways of explaining its coherence and gathering momentum. In the Introduction to the first edition of the Oxford Handbook of Economic Geography the editors identified three theoretical commitments shared by the contributors whatever their academic backgrounds. These involve placing the heterogeneity of the economic landscape at the centre of analysis, a commitment to understanding the evolution of the economic landscape by giving pride of place to disequilibrium over equilibrium, and the importance of diversity (Clark et al. 2000). The second edition of the Handbook accepts these analytical principles and gives expression to the growth and development of the field (Clark et al. 2018).

Those concerned to explain the evolution of the economic landscape tend to begin with Nelson and Winter’s (1982) seminal treatise on evolutionary economics. Their work has been developed and extended by economic geographers in various ways; witness Boschma and Frenken (2006), Essletzbicher and Rigby (2007), Martin and Sunley (2007) and James (2012). In many respects, Nelson and Winter along with those who have followed in their footsteps have sought to explain the growth and development of the cities and regions making-up the economic landscape rather than individual behaviour or individual outcomes. In effect, the individual is treated as a ‘derivative’ of the opportunities presented by their location in time and space. Where individual behaviour is the object of analysis it is often explained by reference to Herbert Simon’s (1978) notion of bounded rationality.

By contrast, the standard way of representing individual behaviour in economics has been through an optimisation framework wherein individuals are assumed to maximise their expected utility. Underpinning the neoclassical model of agent behaviour is a strong assumption of ends and means rationality. That is, an assumption that individuals choose
the most efficient (cost-effective) means of achieving their (particular) objectives. This model held sway for many years notwithstanding strong objections about its (lack of) empirical plausibility (Schettkat 2018). It was justified by textbooks and a conviction that this framework could provide a way of integrating microeconomics with macroeconomics; witness the success of rational expectations as the theoretical bridge between economic behaviour and the macroeconomic performance of whole nations (see Lucas 1972).

Simon’s conception of bounded rationality was based upon laboratory studies of cognition where test subjects were required to use the available information to realise their interests.4 Simon found that most people were overwhelmed by information notwithstanding the conditions obtaining at the time wherein information was scarce and expensive to obtain (Spence 1976). Given limited cognitive capacity and the need to make decisions in accordance with their underlying interests, Simon found that most people economise on their collection of information and economise on the processing of the available information such that their behaviour is best conceptualised as boundedly rational. The distinction drawn was between what people do when making decisions as opposed to ascriptions of behaviour based on conventional notions of ends-means rationality.

Simon’s research has been misunderstood and/or misrepresented (Clark 2018a). Bounded rationality is interpreted by some as a form of less than perfect rationality whereas Simon contended that cognition produces the rationality that’s possible. For others, human limits on processing information in relation to interests and preferences can be and/or should be ameliorated by (public or collective) systems of information provision that enable better decisions—that is, more rational decisions. In some cases, the apparent differences between these competing research programs – one devoted to the economics of information and the other devoted to the nature of individual decision-making – have been elided in favour of the research program on the economics of information (see Caplin et al. 2011).

4/. Simon was much more than a cognitive scientist; he also helped pioneer the field of organizational behaviour utilizing fieldwork and a deep understanding of the challenges in realising collective goals and objectives via the actions of individuals (see March and Simon 1958).
A more pernicious rewriting of Simon’s research has it that bounded rationality is a form of satisficing akin to settling for second best. The implication is that, in recognising their cognitive limitations, individuals do the best they can in the knowledge that their assessment of the relevant options and their consequent responses are likely be less than perfect (Schick 1997). This argument has been given substance, in cognitive science at least, by research programs that acknowledge the fact that many people use heuristics rather than starting from scratch for each and every issue that demands a decision. Gigerenzer et al. (1999) provided the seminal treatment of the production and use of heuristics in decision-making reinforcing equivalence, for some analysts at least, between satisficing and decision shortcuts.

At this point, economic geographers go either one way or the other. For some, bounded rationality and individuals’ reliance on heuristics can be linked to adaptation and learning such that individuals are able to converge upon effective solutions to situation-specific issues (Howells 2012). When allied with an evolutionary perspective, the implication to be drawn is that those who are better at adapting and learning are likely to produce more effective heuristics and, over time, gain an advantage over their competitors. Under conditions that reward adaptation and learning, ‘winning’ heuristics emerge and come to dominate certain sectors and markets. Individual decision-making becomes integrated with the “spatial structure and organisation of the economy” (Martin and Sunley 2007, 595).

Going beyond Herbert Simon to the research program on cognitive biases and anomalies initiated by Kahneman and Tversky (1979) amongst others (see Stanovich 2010), it is arguable that myopia frames the production and use of heuristics (Kahneman 2011). Inertia or status quo bias is so significant that individuals tend to stick with existing routines and modes of decision-making and, to the extent to which they adapt to changing circumstances, they do so anchored by reference to past commitments (Samuelson and Zeckhauser 1988; Maskell and Malmberg 2007). Where the environment is difficult to predict, inertia is the likely default position notwithstanding the value “others” might
attribute to adaptation. These decision-tools can produce behaviour that is individually and collectively self-defeating (Haldane and May 2011).

3. The Geography of Context

In the previous section, the focus was upon cognition and decision-making redressing number of misconceptions attributed to Simon's theory of bounded rationality. Rather than assuming individuals are rational in the manner claimed by most microeconomic theorists of behaviour, Nobel prizes have been won by those who have demonstrated the nature of cognition and, by implication, the limits of the rational actor model (Kahneman 2011). Notice, context enters into this discussion when we turn to the robustness or otherwise of so-called ‘optimal’ decision rules and heuristics based upon experience. Given the status attributed to cognition and context, the behavioural revolution was able to re-set assumptions made about how people behave (invoking traits like inertia and myopia) in conditions that challenge the everyday utility of heuristics (invoking risk and uncertainty).

Underpinning this argument are two key assumptions. First, context matters. Individuals are always and everywhere located in time and space being the coordinates that frame options, prompt decisions, and are the action-spaces that have costs and benefits.\(^5\) It is tempting to suppose that context is always ‘local’ in the sense that it represents the immediate action-space of the individual and those he or she relies upon. By implication, it can be assumed that the people’s action-spaces are bounded by experience and expectations thereby reinforcing focus over an unbounded search for decision-related sensory data and information. It is reasonable to assume that the immediate action spaces of many people are, in fact, temporally and geographically circumscribed—there being a certain symmetry in the limits imposed by space and time (Clark 2013).

\(^5\) One thread of argument found in modern liberalism has it that context (community, society etc) is so powerful that “individuals are shaped by their circumstances to a far greater extent than can conventional opinion allow(s)” thereby discounting individual volition and behaviour and, more generally, individual development (see Collini 1989, xix on the argument informing John Stuart Mill’s “On Liberty”).
Even so, most people whatever their locale is subject to an enormous flow of sensory data and information that is local and global (and all levels in between). Take, for example, inflation expectations (Shafir et al. 1997). For most people, living and working in a particular city or region, inflation is experienced by changes in the prices of goods and services bought and consumed at the local level. For example, many people appear convinced that property prices are always local in the sense that the value of a house as determined by its location and the expected value of its neighbourhood rather than national and international monetary policy and global economic growth (Clark 2012). Linking local inflation expectations with national and international financial markets requires a high level of conceptual sophistication (cause and effect) as well as an ability to empirically place the local in relation to the global notwithstanding the many relevant variables.6

People overweight local experience and underweight abstract or formal knowledge about how economies work and the links between that which can be observed at the local level and that which is reported at the national and international levels (Kahneman 2011). In many cases, people are aware of the possible costs of local bias. Nonetheless, given cognition, how information is processed, and the limited capabilities and resources relevant to making sophisticated financial decisions, many people tend to react to local information on property prices rather than deliberately plan for the future by assesses changes in property prices against wider processes that have known but abstract characteristics that require interpretation against local conditions (Clark 2012).

Simon’s approach was very much about how people process information in laboratory conditions where the sources of information were tightly controlled. This approach is consistent, of course, with the experimental methods that dominate cognitive science and behavioural psychology. In recent years, however, more interest has been shown in how people collect information for decision-making. Here, the governing principle underpinning

6/ See the recent IMF (2018, 93) report which showed that there has been “an increase in house price synchronization, on balance, for 40 countries and 44 major cities in advanced and emerging market economies.” The authors of the study suggested “exposure to global financial conditions may provide an explanation for the increase in house price synchronization” as well as “their integration with global financial markets” and investors “searching for yield or safe assets.”
this research program has been the claim that people sample the environment: that is, prior to processing information in the manner made famous by Herbert Simon, it is assumed that people sample the available information thereby economising on the effort required to process information. As stated, this sounds an entirely logical sequence of actions as long as it is recognised that these actions are intuitive and likely occur virtually simultaneously (Chater and Oaksford 2006).

The sampling metaphor gives pride of place to the individual and his or her immediate context. Fiedler and Juslin (2006, 8) suggest that people give priority to their immediate environment because it is the richest source of data and, notwithstanding a broader understanding of their place in the world, it is likely to be the most reliable source of data. This point was stated as follows: “people are typically exposed to richer and more detailed information about themselves than about others, just because they are closest to themselves”. As “naïve intuitive statisticians”, it is inevitable that individuals begin with where they are in time and space. For social scientists trained to distinguish between the subjective and the objective, this argument about the situated nature of cognition implies that any such distinction is likely illusory (compare Morrison and Weckroth 2018).

Fiedler and Juslin (2006, 18) go further to suggest that sampling has a broader remit than just the individual. Working from the individual to society they observed that people “are exposed to denser information about in-groups than out-groups of their own culture than to other, exotic cultures. Not only does environmental input vary quantitatively in terms of the density or amount of detail; it is also biased toward cultural habits, conversational norms, redundancy, and specific physical stimulus properties.” In these ways, Fiedler and Juslin suppose that the process of sampling the immediate context is, itself, framed by both individual desires and commitments and the norms and conventions that frame expectations about their behaviour in relation to others.7

7/ Even so, laboratory tests of decision-making indicate that individuals prioritise their experience over others (see Baron 2008). We show that when it comes to explaining the uptake of insurance, others’ experience is less important than respondent’s own experience although both effects are more significant than conventional categories such as financial literacy (Clark et al. 2018).
At this point, it could be argued that Simon and others have simply identified behavioural biases that any self-conscious agent would correct given the costs and consequences of confirmation bias. However, Hogarth (2001, 120) counters this supposition by noting people “learn ‘naturally’ from what we see, not from what we do not see” and that we prefer “testing whether we are right to testing whether we are wrong”. Indeed, more often than not people use exemplars to represent the relevant properties of the observed world rather than reaching to a model of the world in all its complexity (Chater and Oaksford 2006). By this account, behaviour is reactive rather than “governed by the rules of deductive logic”. Given the”normal course of events”, adaption is likely to be systematically inconsistent and error-prone (Thaler 2018).

4. Ecologies of Behaviour

As suggested above, the naïve intuitive statistician research program provides a bridge between cognitive scientists interested in how individuals select and process data in context and economic geographers interested in the nexus between cognition and context. At the same time economic geographers, like other social scientists, have recognised that space matters in that individual behaviour can be aggregated to demonstrate systematic patterns across space and time. Whereas social scientists typically explain ecologies of behaviour by reference to institutional and social variables, the behavioural sciences do so by summing-up behaviour via the attributes of people represented, for example, by their age, gender, education and earned incomes (see Weber and Hsee 1999).

At this point, economic geographers might reasonably protest that individuals are always and everywhere embedded in society – the claim being that to think otherwise would be to take individualism to the extreme denying the importance of context in framing what is salient for individuals given their own commitments and their relationships with others.

8/ Bayesian reasoning is an unlikely decision tool not because it is irrelevant but because it requires a level of deliberation that is challenging compared to the alternatives (see Sloman 2005). For many people, its value is not obvious given that its translation into reasoning oftentimes requires instruction rather than intuition (Sedlmeier and Gigerenzer 2001).
(Strauss and Meehan 2017). Such an extreme form of individualism is neither credible physiologically or psychologically (Lear 2007). Criticism of this position is an important thread in contemporary economic geography (see Bathelt and Glückler 2011 amongst others), and is closely related to work by Granovetter (1985) and Grabher (1993) on embeddedness and the improbability of a universal conception of the individual absent due regard to their lived circumstances.

Cognitive scientists have also retreated, somewhat, from laboratory-based versions of the individual. Take, for example, recent research on risk preferences. Recall that Kahneman and Tversky (1979) used university test subjects to show that risk aversion is a human trait, a finding replicated across many societies (Henrich et al. 2005). More recently, research has sought to distinguish risk tolerance by social status. So, for example, it is widely known that younger men whatever their earned incomes are more risk tolerant than younger women and that, as men and women age, there is a convergence between the sexes on a lower level of risk tolerance (Baron 2012). At the same time, it has been shown that a small portion of the population is risk-seeking to the limit, willing to gamble on their futures. These gamblers tend to be younger men rather than younger women (Clark et al. 2018).

In the UK, many people gamble if gambling includes buying national lottery tickets, scratch cards and the like (Conolly et al. 2017). But relatively few people gamble in ways that threaten their long-term well-being. Those that do so tend to be younger, male, minority, less educated, unemployed and located in the north-east, Yorkshire, London and Wales. Problem gamblers use betting shops and on-line facilities that are dedicated to serving this population (Wardle et al. 2014). What accounts for these patterns? It could be that the regional incidence of gambling reflects the local level of unemployment, educational attainment, and social deprivation. It could be that geographical patterns of gambling reflect risk-seeking cultures reinforced by commercial agents that take advantage of such behaviour in certain localities (Leyshon et al. 2004, 2006).
Distinguishing between the material conditions obtaining in certain localities that are conducive to at-risk behaviour and threads of social identity that are collectively self-defeating are notoriously difficult to disentangle. But consider the following. There are systematic differences – North and South – in life expectancy and the incidence of chronic conditions such as alcoholism, cancer, diabetes, obesity and heart disease holding constant age, gender, and income.\(^9\) It is often argued that geographical variations in lower life expectancy, the incidence of chronic disease, and pernicious activities like at-risk gambling reflect the inadequacy of local health and educational resources. Even so, considering children’s long-term educational attainment, those beginning in similarly impoverished conditions – North and South – achieve very different outcomes: poor children in southern council estates tend to significantly outperform poor children in northern council estates.

More specifically, it has been contended that gambling, poor health, low educational attainment, and the lack of social mobility are more likely to be passed between generations within local communities in the North than in the South. This is despite the fact that housing and transportation costs are far higher as a proportion of earned income for poor people in the South than in North. The implication to be drawn is that whatever a person’s socio-economic identity as expressed by age, gender, earned incomes, and educational attainment there exist regional cultures of behaviour that reinforce the advantages and disadvantages of a person’s location in space and time. There may be, in fact, cultures of poverty and achievement that foster very different ecologies of behaviour.\(^{10}\)

This argument is controversial, and can be classed as a form of blaming-the-victim or worse (Valentine 1969). Nonetheless, it comes in two different forms in contemporary economic

\(^9\)/ In this paper, I cannot do justice to the extensive literature on spatial epidemiology inside and outside of the discipline. For recent research on UK health inequalities see Dorling (2013) and for a recent empirical study of the geographical incidence of heart disease in the US see Walker and Crotty (2015).

\(^{10}\)/ Commentators on the left and the right dispute the effect of geography preferring to see the issue as one of resources or motivation. See “North-South divide widens as school performance figures show vast inequality in education” The Telegraph 12\(^{th}\) January 2018 noting the cross-party commission on educational inequality. See also “This map shows the North-South divide in GCSC attainment” The Telegraph 11\(^{th}\) November 2015.
geography. For many economic geographers, context is seen to influence behaviour rather than directly determine behaviour. Andersson and Larsson (2016, 44) explained the entrepreneurial intensity of an area by reference to the interaction between individuals and their peers. Their argument was that “social interactions imply a local feedback process, where peers influence individuals, who in turn influence others.” Likewise, Essletzbicher and Rigby (2007) suggest that as individuals are implicated in the formation of institutions through which social interaction takes place, in turn these institutions affect behaviour. In a similar manner, Spencer (2012) focuses upon the interaction between agency and structure.

This type of argument begins with the individual and conditions behaviour on the context in which people find themselves. Individuals separately and together can be the architects of institutions as well as the beneficiaries of institutional systems of rewards and sanctions. In doing so, theorists attribute to the individual both a capacity to see beyond existing circumstances to social institutions that could enhance their own well-being and the well-being of others and a capacity to adapt and respond to institutional rewards and sanctions as regards social expectations of proper behaviour. Located in space and time, individual behaviour is boundedly rational in the sense that the institutional context sets the norms and conventions of acceptable behaviour if not all behaviour (Martin and Sunley 2007).

There is, however, a more nuanced version of this argument. In Clark et al. (2012) three related assumptions were made about behaviour and institutions. First, it was recognised that myopia and risk aversion are common behavioural traits, especially in circumstances where individuals have difficulty distinguishing between the commonplace and more demanding situations which require a level of deliberation at odds with existing commitments. Second, it was argued that context matters in the sense that settled environments elicit and reward certain types of behaviour whereas environments characterised by uncertainty challenge even the most robust decision rules by undermining the assumed relationship between cause and effect. Third, it is assumed that few people have agency in the sense that they are able to affect the rules of the game.
In this world, different types of people coexist such that there are the myopic (responsive to short-term signals), naïve planners (who seek a pathway forward but lack an understanding of the forces conditioning local options), sophisticated players (able to reconcile current circumstances with system-wide processes), and opportunists (willing and able to take advantage of myopic and naïve planners for their own ends). To illustrate, companies that provide neighbourhood betting shops and associate gambling on football, racing, and other related activities with desirable thrills and experience trade on certain types of people rather than all people (Bordalo et al. 2012). These companies provide lines of high-cost credit notwithstanding the lack of resources of many myopic and naïve planners and their vulnerability to the consequences of this kind of behaviour (Gabaix and Laibson 2006).

This argument carries with it three implications. First, there need be no symbiotic relationship between individuals and institutions – rather, behavioural traits such as myopia and reliance upon heuristics may well reinforce the vulnerability of certain groups in certain places to institutions. Second, it also suggests that some form of paternalism or, indeed, intervention into the activity spaces of certain groups in certain places may be necessary to liberate those otherwise imprisoned by their own behaviour and the behaviour of others. There is a third implication which is less palatable. If the rules of the game are set by sophisticated players or, perhaps worse, opportunists then institutions may well function to reinforce the social and spatial segmentation of opportunities, expectations, and behaviour.

Assuming people are conscious of who wins and loses in these situations, this could be sufficient to prompt changes in behaviour in favour of those who tend to come-out ahead. Surely, imitation is the way out of such a (behavioural) dead-end? Maybe. But, the evidence suggests that people normally weigh more heavily their own experience than the experience of others (Innocent et al. 2018). A stronger intervention would be required than simply relying upon peer-group effects.

\[11\] This reinforces Leyshon et al’s. (2004, 2006) findings who showed that doorstep sellers of financial products do so in the knowledge of the vulnerability of certain neighbourhoods to deals that are ‘too good to be true’.
5. Liberalism and Materialism

The idea that there is a recursive relationship between individual behaviour and institutions such that the former is shaped by the latter which, in turn, is shaped by collective action provides a reasonable approximation of liberal democracy (see, for example, Jackson and Roe 2009 on the process whereby institutions are established and maintained). It also provides a way of attributing status to the individual consistent with the central tenets of 19th-century liberalism. There is, nonetheless, unease about arguments to the effect that local cultures can dominate individual consciousness such as their best interests are subsumed by norms and conventions that encourage the imitation others.\(^\text{12}\) Kuper’s (2009) critique of the status of culture in anthropology is premised on the belief that individuals can stand apart from culture thereby discounting the explanatory power of the concept in contemporary society.

More generally, liberal democracies are founded upon the principle of individual autonomy and responsibility wherein individuals are held to account for their behaviour whether positive or negative. So, for example, individuals can legitimately claim rewards for their skills and expertise notwithstanding the existence of norms and conventions that encourage a sense of fairness and reciprocity (Brennan et al. 2013; Hart and Moore 2008). At the limit, individual differences in human capital can be used to justify the unequal distribution of income and opportunities as well as the scramble for advantage over others in the distribution of social resources. Arguably, growing income inequality over the past 50 years and across the OECD can be attributed to the dominance of this ethos over other competing ideals including social democracy (Piketty 2015; see also Monk and Sharma 2018 on the enormous profits of the global financial services industry).

\(^{12}\) Imitation is an attempt to align with others for the purpose of self-identity (Bruner 1990, 100). In cognitive science it is also interpreted as a decision-cue invoked to resolve or mediate uncertainty in situations where there could be significant costs with an intended action (see van Horen and Pieters 2013). Imitation is a ready-made heuristic trialed by someone else in a (notionally) similar situation (Clark et al. 2012).
Individuals are also required to respect the rights of others and are held accountable when they infringe those rights. In commercial dealings, individuals are either directly or indirectly required to adhere to the rules and the norms and conventions governing fair-dealing and the like. More formally, individuals are protected from one another by state-mandated sanctions which are designed to penalise those that act against others in ways that would illegally harm their wellbeing (Fried 2007). Directly or indirectly, holding people to account in these circumstances involves attributing to individuals motives and intentions as if they were fully aware of, and responsible to, others. Whereas mitigating circumstances may be considered by courts when imposing penalties, in theory there is no refuge from responsibility for those individuals who violate the rights of others even if there is a gap between theory and practice (Galston 1996).

Liberal theory favours respect for individual choice and behaviour (Schick 1997). However, as Samuelson (1937) suggested many years ago, individuals’ motives are rarely directly observable – either observed preferences are used to infer motives and intentions or people are asked to explain their actions against societal expectations. Either way, there are obvious problems in validating observed preferences and respondents’ explanations of their behaviour. The credibility of observed preferences depends on three conditions: (1) individual behaviour is entirely voluntary (coercion would invalidate any inference about underlying interests); (2) behaviour is always conceived in terms of his or her best interests; and (3) when making a choice and acting accordingly individuals do so having considered the relevant options and consequences.

Quite obviously, many people act in circumstances not of their choosing and have to deal with the coercive influence of others and of the circumstances in which they find themselves. Equally, the assumption that people optimise in relation to their best interests runs the risk of treating people as machines rather than recognising the constraints under which they assess their prospects and act accordingly (Kahneman 2011). Most importantly, however, it does not seem credible that people everywhere and always make decisions having considered the relevant alternatives and their consequences (Masatlioglu et al. 2012). Typically, people do not devote sufficient attention to the relevant options when
considering a course of action. This could be because of cognitive overload – there being too many options to be evaluated in terms of their likely costs and consequences. Equally, that which is deemed salient may be that which is permitted by others rather than that which is the best interests of those concerned.

In any event, liberal theory presupposes that individuals encounter moments where they must assess options and make choices, presumably beginning from scratch on every issue given past experience and expectations of the future. So, imagine that people carry with them the experience of past decision-making – wouldn’t that solve some of the problems encountered when having to decide about a specific issue? Here, however, Vlaev et al. (2009, 158) argue “to converge to a rational equilibrium, learning requires endless trials and practical experience of success and failure. Relying on such learning is impractical for many aspects of consumer financial decision-making because of the relative infrequency of having to make such decisions in real life.” Whereas they are pessimistic about the efficacy of learning-by-doing, there are instances where it is effective. Nonetheless, the conditions necessary for effective learning are very demanding just as translating what is learnt in one situation to other situations is very challenging cognitively and culturally (see Levitt et al. 2013 and Gertler 2001).

There is, however, a more profound objection to the presumption in favour of the existence of deep-seated albeit difficult to identify preferences. Chater (2018, 8) argues that “there is no inner world.” He objects to theories of the mind that privilege the subconscious suggesting that there is no authentic self which is the one constant in an individual’s life of changing circumstances, relationships and commitments. He also objects to Freud, psychoanalysis, and theories of mind and behaviour that privilege emotion (subjectivity) over experience of the material world. Citing Shafir and Tversky (1992), he suggested that “when we make choices, we are not expressing a pre-existing preference at all; indeed they
would argue that there are no such preferences. What we are doing instead is improvising – making up our preferences as we go along” (Chater 2018, 119).

These objections to the existence of a hidden self that guides behaviour across space and time invoke the material world which frames the options available and their benefits. If we lack a constant self, we must be very sensitive indeed to the context in which we frame issues, assess options and make decisions. Which is not to say that we simply reflect the imperatives of the here and now so much as how we respond to the world in which we live. This ‘world’ is the material basis of decision-making. In this respect, place-based cultures can be interpreted as something more than the expression of common responses to shared problems – these institutions are valuable social mechanisms for framing options and guiding behavior up until they fail (Clark 2018b).

6. Behavior in Time and Space

An alternative to liberal idealism is to locate behaviour with social position. Sharpe (2007, 11) explained financial behaviour in the following manner: “investors differ in geographic location, homeownership, profession, and so forth. We term these aspects an individual’s position. Similarly, people may have different feelings about risk, present versus future gratification, and so on. We term these an individual’s preferences. Finally, investors often assess the chances of alternative future outcomes differently. One investor’s predictions may differ from those of another…” In sum, individuals’ positions, preferences, and predictions produce heterogeneous expectations and behaviour in financial markets.

Sharpe’s explanation of behaviour is grounded in the material world; behaviour is co-determined by position, preferences and expectations because each is anchored in an individual’s experience of the world even if these elements have their own role to play in

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13/ This has implications for the importance we might attribute to expressed feelings of well-being and the commitment to certain ways of thinking about the world whether at the local, national, or international levels (see Morrison and Weckroth 2018; Jungherr et al. 2018). There is little doubt as to people’s sense of well-being (witness voting patterns on BREXIT). The issue is the stability of these feelings. Cognitive science would suggest that these opinions reflect context; as it changes, so too are expressed opinions likely to change.
framing options and making decisions. By this logic, Sharpe doesn’t need Samuelson’s (1937) notion of utility maximisation or an elaborate explanation of the consistency of preferences. Since he believes that position matters, there is no need for an explicit or implied appeal to the existence of individual subjectivity and/or the subconscious. Whether his approach is based upon cognitive science or is the product of observing behaviour in financial markets the result is much the same: blunt realism combined with materiality.

Economic geographers have a similar explanation of the systematic nature of individual behaviour wherein behaviour is explained in terms of social and spatial embeddedness (Grabher 1993). Here, intentions and actions are products of the relationships that bind people together locally and globally (Bathelt and Glückler 2011). It is then relatively straightforward to explain behaviour by reference to an individual’s location in time and space which represents the (more or less) systematic nature of the available options. Less formally, geographically-specific norms and conventions can be identified that give shape to commonalities in behaviour without reducing these heuristics to individuals’ (separate) goals and objectives. Similarly, culture can be seen as a decision-resource: a shorthand way of framing relationships with others, and a summary of local expectations of what counts as ‘proper’ behaviour (Geertz 1983).

Taken to the limit, the relationship between the material circumstances obtaining in a specific place and time and observed behaviour could be thought sufficient to ‘explain’ behaviour. Indeed, taken to the limit, we have an explanation of the spatial differentiation of behaviour that is simultaneously universal in scope and realised at the local level in all its variety. That is, we have an explanation of how decisions are made (in general) and an explanation of the spatial differentiation of behaviour (in particular).

There is, of course, a danger that as everywhere is different, so too is behaviour. This is obviously not true. One way of explaining commonalities in behaviour across space and time is to locate the local in the spatial hierarchy linking the local through to the global. To the extent we share similar material conditions, we should also observe similar types of
behaviour unless local incentives and sanctions ‘drive’ behaviour away from convergence. Therefore, another way of explaining commonalities in behaviour across geography works from commonalities in institutions (e.g. the Anglo-Saxon model) through to how individuals and communities respond to economic and financial imperatives. The current debate about the consequences of neoliberalism for wellbeing is a case in point (Peck 2010).

Less institutional are arguments to the effect that where a person is ‘located’ in their society provides a way of linking relative status to observed behaviour crossing-over differences in culture and society in search of commonalities in behaviour. In economics, this is a favoured mode of empirical analysis utilising variables such as individuals’ family status, employment status, earned incomes, educational attainment, and regional location to ‘explain’ behaviour. This matches Sharpe’s (2007) argument about the importance of social position and is effective, in large part, as long as the societies included in such projects share (more or less) traditions, development trajectories, and formal and informal institutions. Where this is not the case, anthropological fieldwork may be the better option when seeking to understand what counts as relevant institutions and ways of representing social status (Douglas and Wildavsky 1983; Geertz 1983).

However relevant to economic geography, for those working in the field of judgement and decision science social-cum-spatial position is only of marginal interest. More important is the search for behavioural traits that are shared across cultures and societies even if mediated and, in other places, amplified by culture, material conditions, and institutional formation. At centre stage in this research program are traits such as risk aversion, the predisposition of many to discount the future, and the degree to which the past, present, and expected well-being of a person figure in decisions taken about the future (Ainslie 2001). These types of human traits were the focus of Kahneman and Tversky (1979) and have been studied across the world with country-specific studies as well as comprehensive comparative studies within and between societies (see Henrich et al. 2005).
In some cases, these studies are based upon laboratory tests of behavioural predisposition using test subjects drawn from major universities around the world. In large part, this research program has confirmed the existence of risk aversion and future discounting in many developed and developing societies. At the same time, there is little doubt that these behavioural traits are significantly affected by the context in which people find themselves. Indeed, in many cases, there are sufficient differences between laboratory subjects on these issues that scholars fall back on explanations of behaviour based, in part, on cultural factors as well as local social and economic conditions (see Weber and Hsee 1998, 1999 comparing Chinese MBA students with American MBA students).

In research utilising representative samples of employed individuals aged 24 years to 64 years across 11 countries, we have sought to determine whether past, present, and/or expected increases in household income affected respondents’ risk tolerance (Clark et al. 2018). The countries in our sample included Germany, Italy, Spain, Switzerland, and the UK (Europe), Brazil, the USA and Mexico, and Australia, Hong Kong, and Malaysia. Consistent with research findings in the field of judgement and decision science, it was found that risk tolerance is less affected by past changes in income than it is affected by expected changes in income. Respondents whatever their countries were more willing to take risk if they reported that they expected higher incomes in the near future.

These findings are not, in any sense, conclusive. This predisposition was shown to be mediated by socio-economic characterises and institutional differences. Nonetheless, these findings indicate that on certain key decision issues human predisposition (risk aversion or tolerance) is affected by expected welfare thereby either reinforcing or mediating risk aversion. Of course, whether or not an individual expects his or her income to increase or decrease in the future depends, in large part, upon their position in the local labour market. So, we may well find differences in risk aversion across countries but those differences need not be cultural so much as economically determined.

7. Implications and Conclusions
Economic geography should take the findings of cognitive science to heart. In this paper, I discount critics of these developments by suggesting it has an affinity with the foundations of economic geography. In the first edition of *The Oxford Handbook of Economic Geography*, the editors noted the significance of the threads binding the sub-discipline together: a commitment to understanding the diversity of economic life and the importance of bringing front and centre the spatial heterogeneity of human behaviour and institutions. This methodological-cum-analytical commitment has found favour across the social sciences. It is also consistent with recent developments in cognitive science which favours a model of human reasoning which gives pride of place to context (Schneider and Barnes 2003).

Nonetheless, the presumption underpinning this research program is that the unit of analysis is the individual. This is evident, for example, in the use of university students in laboratory tests of human reasoning thereby avoiding, as much as possible, the challenges faced when seeking to integrate cognition with context. But, this is just one facet of a sprawling research endeavour elements of which seek, quite deliberately, to assess the generality of laboratory findings on cognition (e.g. risk aversion) against the influence of culture, economic conditions, and institutions on individual behaviour. In this realm, context comes in many different forms including jurisdiction-specific material conditions and socially-founded expectations of one another. As such, norms and conventions may be just as important as human predisposition in explaining behaviour (see Brennan et al. 2014).

One of the key building blocks joining cognitive science with economic geography is the premium attributed by both to experience and (to a lesser extent) learning-by-doing (Arrow 1962; Gertler 2003). At base, cognitive science is focused upon the processing of information from the world experienced by the individual. Likewise, an important research theme in economic geography concerns the ‘production’ of spatial diversity in individual behaviour and institutions weaving together these two threads of argument into something that approximates an explanation of the evolving economic landscape. While economic geographers readily refer to the path-breaking work of Herbert Simon on bounded
rationality, less attention is devoted to the implications of context-specific reasoning for the production of geographical differentiation.

Another implication to be drawn from cognitive science is that it is not meaningful to talk about a person’s identity as if there is something fundamental about being an Australian, an American, or for that matter a Russian. For cognitive science, an individual’s ‘personality’ is more likely a cultural and/or social affectation than it is innate to human beings. Put slightly differently, cognitive science distinguishes between human traits which are arguably shared by all humans whatever their context. In contrast, individuals’ affectations, habits, and proclaimed identities are ‘produced’ rather than inherited at the interface of context. As such, it doesn’t make sense to blame an Australian for poor eating habits and diet as if this type of behaviour is in some sense hardwired in the brain and passed between (local) generations.

There is an equally compelling implication: the apparent responsiveness of human beings to context is so significant that material conditions can produce Australians, Americans, and Russians if what we count as important is observed behaviour in all its diversity. At this point, it could be objected that the diversity of observed behaviour is ephemeral and beside the point. That is, we should treat economic agents as economic agents whatever their context. To do so, would return to the liberal tradition and nineteenth century idealism wherein the individual was to be liberated from tradition. But, this is not the implication to be drawn from my argument. The implication to be drawn is of the fundamental significance of context which, at once, affects, ameliorates, mediates, and in so many different ways structures individual behaviour. So significant, in fact, is context that it is meaningful to talk about Australians, Americans, and Russians.

To illustrate, recent research has sought to determine how to design and implement prompts to affect individual behaviour (Thaler and Sunstein 2008). Here, the assumption is that individuals can be influenced in the actions they take by tailoring incentives and sanctions according to behavioural traits and socially desirable or not desirable outcomes.
See, for example, the use of ‘nudge’ to prompt individuals to incrementally adjust their behaviour so as to save more for the future, reduce their intake of sugar, and take actions that improve individual and collective well-being. These prompts take seriously inertia and procrastination and then seeks to prompt minor changes in behaviour which, over time, culminate in better outcomes. These types of prompts only work if we take into account local norms and conventions even if their effectiveness may be transitory (given material circumstances).

Critics of this type of public policy accuse it of being a form of “Big Brother” or worse. We could imagine, for example, whole societies organised around incentives and sanctions legitimised by a constant appeal to societal norms and conventions. Likewise, we could imagine there exists in some office–governmental and/or corporate–nudge designers that are responsible for the future face of society. If accompanied by a ruling ethos which has, as its objective, a certain kind of society shorn of individual behaviour which contradicts or in some sense challenges the legitimacy underpinning its designers then we could end-up with a social world that are antithetical to 19th century liberalism. Missing in this argument is the existence of individual self-consciousness—a human trait not a context-specific affectation.

Here, however, cognitive science goes in either of two ways (Doherty 2003). For some, human consciousness is, more often than not subsumed by habit and information processing given the context in which people find themselves. For others, however, this simply describes the world as given and discounts the ways in which events and self-reflection informed by knowledge and understanding of the world frame individuals’ encounters with context (Kahneman 2011). On the one hand, cognitive scientists are pessimistic about the capacity of individuals to engage in self-reflection which is demanding cognitively and culturally. On the other hand, cognitive scientists are optimistic about individual’s capacity for self-reflection both in terms of their own well-being and the well-

14/ Some commentators accuse Thaler and Sunstein of pedalling a subtle form of coercion (Clark et al. 2012). Those that follow in John Stuart Mill’s footsteps would, presumably, see nudge as a way of educating individuals about how to realise their best interests. In other respects, nudge appears more consistent with Fried’s (2007) treatise on modern liberty which seeks, at every turn, to put individuals first thereby avoiding direct intervention by government.
being of others. It could be, of course, that some contexts reward self-reflection and others do not. Here, then, is an intellectual project that joins cognitive science with economic geography.

References


