

Understanding and investigating relationality in the capability approach

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Funding information

Chief Scientist Office, Grant/Award Number: CZG 2 425; Australian Research Council, Grant/Award Number: DP140103863; The Health Foundation, Grant/Award Number: 7209

Abstract

The capability approach (CA) is a framework for understanding, assessing, and promoting the quality of human lives and social justice. It focuses on capabilities – people's freedoms and opportunities to live in valuable ways. Although its proponents readily acknowledge that capabilities can depend on personal, social and environmental factors, little attention has been paid to the ontology of capabilities (what they are and how they are caused and constituted) and the inherent relationality of the approach is often not well followed through in research and practice. This, we suggest, leaves the CA vulnerable to misinterpretation and misappropriation. In this paper we draw on the complementary lenses of critical realism, hermeneutics and complexity theory to develop an explicitly relational ontology of capabilities that explains how capabilities, as potential for ways of being or forms of doing, are generated by both personal agency and material and social structures. We demonstrate how these lenses can illuminate the relational constitution of particular capabilities through reference to a composite case involving a man called Bert and his healthcare team. We outline how our relational ontology of capabilities can demand and support more theoretically coherent

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and socially just approaches to CA informed practice, research and policy.

KEYWORDS

capabilities, capability approach, complexity, critical realism, hermeneutics, ontology, social theory

1 | INTRODUCTION

In this article, we further develop a relational ontology of capabilities intended to help ensure that research and practice that draws on the capability approach (CA) can more consistently reflect the social and relational dimensions of this approach. We also highlight some potential benefits of a relational ontology for social theorists more generally.

The CA is an influential framework for conceptualising and assessing equality and the quality of human lives, particularly in contexts where there are concerns about social injustice.¹ It focuses primarily on understanding and supporting the development of human capabilities – people's freedoms and opportunities to achieve valued functionings (activities and achievements, such as being well nourished, literate or musically accomplished). This focus on capabilities was developed initially by Amartya Sen, in part to avoid the shortcomings of the prevailing evaluative frameworks used by economists and in human development work to assess and compare people's wellbeing. It is an alternative to assessments based either on resources (which are important but not ultimately what matters) or happiness (which is more readily included among what is ultimately significant, but as an indicator of wellbeing or relative advantage can obscure major problems associated with poverty and injustice, due to the malleability of human desires) (Sen, 1992, 2001, 2009).

Sen has eschewed the idea that the CA is a complete theory, and while he has revised his conceptual labels and emphases over time depending on the issue at hand, he has consistently stressed the need for a pluralistic and open ended view of the CA (2009). Perhaps the most influential response to Sen from within the community of scholars and practitioners working with the CA has come from Martha Nussbaum (2003, 2011) who has sought to give the CA more definition by specifying a substantive list of 'central human capabilities' which she presents as essential to any broader account of the good life. While the CA remains theoretically heteronomous, Robeyns has argued persuasively that there is a "foundationally robust core" to a recognisable "capabilitarianism" (2016: 397).

The CA has been used and further developed for a range of purposes across a variety of fields and disciplines. In particular, the CA has already made valuable contributions within philosophy, economics and development studies, and has potential to make novel contributions to sociology and social theory. As we will illustrate, a relationally theorised CA offers social theorists a perspective for conceptualising the relationship between structure and agency that is grounded in a rich and developed framework for understanding concepts of well-being, freedom, inequality, and (in)justice. The CA can contribute normative and evaluative dimensions which complement the explanatory aspects of social theorists' work (see Gangas, 2020). Moreover, the widespread practical interest in and application of the CA means it offers social theorists opportunities to reach new audiences and engage with a growing

community of policy makers and practitioners operating across an extensive variety of fields. In applied contexts, many have seen the CA as a sophisticated and practicable alternative to the somewhat impoverished conceptual frameworks and approaches to assessment of wellbeing or advantage that feature in much policy discourse and many evaluations of public services (see, for example Walker [2005] in the context of education and Entwistle et al. [2018a] in the context of healthcare, where a focus on capabilities can also help avoid the shortcomings of narrowly biomedical and functional assessments of quality of life).

However, the potentially rich advantages of the CA are not universally recognised or taken up in application. We suggest that some significant misunderstandings and misapplications of the CA arise because the CA's emphasis on the ultimate value significance of individual human lives (ethical individualism) is frequently but inappropriately extrapolated to other forms of individualism, including methodological individualism and overly individualistic thinking about the development and constitution of capabilities (Deneulin, 2005; Robeyns, 2017). Although, as we will briefly explain, the CA is widely recognised to be somehow relational, researchers and practitioners who claim to draw on it do not always follow this insight through. In part this is likely because (with some notable exceptions) insufficient attention has been paid to questions about what capabilities are and how they are caused and constituted. Our main purpose in this paper is therefore to develop a relational ontology of capabilities that can support the promotion of research and practice more coherent with, and better able to deliver on, the potential of the CA to understand and tackle shortfalls in human wellbeing and social justice.

The paper is organised as follows. We begin by briefly reviewing the idea that the CA is inherently relational, explaining why the relationality of capability matters, and noting that a relational ontology of capabilities is underdeveloped. We then introduce three bodies of scholarship that we suggest can work in complementary ways to facilitate the development of more deeply relational understandings and investigations of human capabilities. We start with critical realism (CR), which provides a conception of a relational social ontology that can clarify the relationship between structure and agency and explain how capabilities, as causal opportunities or powers, are generated and moderated. We then turn to qualitative hermeneutics (QH) which allows us to refine the basic relational ontology of capabilities suggested by CR by highlighting the salience of the meanings people attach to structural circumstances, relationships, actions and their own agency for the development and constitution, as well as the valuation, of capabilities. We then use insights from complexity theory (CT) to further illuminate the complex systemic dynamics involved in the development and constitution of capabilities, including causal interconnections between them.² We conclude by summarising the key features of our relational ontology as informed by these bodies of work and briefly outlining some of the methodological, ethical and political implications of the ontology.

To illustrate our analysis we use a composite case that draws on examples and insights from several empirical research projects relating to food insecurity, literacy and healthcare that we have carried out in the UK, Australia and South Africa (Craven, 2017; Douglas et al., 2020; Easton et al., 2013; Entwistle et al., 2018a, 2018b). Our initial description of this case is as follows:

Bert is a white man in his mid-fifties. He lives alone in conditions of occasional and precarious employment, relative poverty and social isolation in a deprived former industrial town in northern England. Bert is overweight and has been diagnosed

with type 2 diabetes and high blood pressure. He also experiences loneliness and may be somewhat depressed.

Bert's healthcare team, consistent with national health policy, are trying to support him to manage his health conditions more effectively through diet, exercise and medication management. They are somewhat frustrated as their efforts to educate and motivate Bert to reduce his calorie intake, improve the nutritional balance of what he eats, and be more physically active have not led to any significant reductions in his body weight, blood sugar or blood pressure levels. They now hope he might benefit from participating in a series of group discussion and activity sessions that they can refer him to as part of a research study evaluating the effectiveness of self-management support interventions for people with diabetes.

From a CA perspective, the challenge for Bert's healthcare team is to understand Bert's (valued and actual) capabilities and how best to enhance these. We aim to help them (and other practitioners and researchers) to understand and develop in a practically useful way the general idea that Bert's capabilities are a product of *both* his personal attributes and behaviours *and* the various material and social structures in which he is situated.

2 | RELATIONALITY IN THE CAPABILITIES APPROACH

We follow leading scholars in viewing Sen's account of capabilities, and many of the variants that have followed, as inherently relational (e.g. Deneulin, 2005; Groff, 2012; Mackenzie, 2014; Martins, 2007; Smith & Seward, 2009; Tao, 2013). In particular, we will build on the proposals by Martins (2006, 2007) and Smith and Seward (2009) that Sen's conception of capabilities can benefit from being grounded in an explicit conception of a relational social ontology. As we go on to illustrate, critical realism (CR) provides an ontological framework for understanding the capabilities a person has, and the decisions and actions they take, as caused and constituted by the interactions of causally efficacious structures, powers, mechanisms and tendencies.³

In this section we briefly introduce these ideas and summarise general recognition of the relationality of CA as an approach, before noting that work on the relational ontology of capabilities per se has received insufficient attention and remains somewhat under-developed. We highlight some of the dangers of failures to follow through on a recognition that the capabilities that people have, and the capabilities that they value, are not properties that are fully generated by or contained within individuals before turning in subsequent sections to develop a relational ontology of capabilities to help correct this problem.

Accounts of the capabilities approach routinely acknowledge that people's capabilities are shaped by their structural circumstances as well as by their own decisions and behaviours over the course of their lives. Advocates of the CA are therefore at least tacitly committed to the assumption that a person's capabilities are shaped by the interactive relationship between structures and agency. This can be seen most clearly in the concepts of conversion factors and adaptive preferences that are central to most interpretations of the CA.

Conversion factors are broadly understood as contingencies that moderate people's scope to convert resources (e.g. money, commodities and tools) into capabilities and functional achievements (Robeyns, 2005, 2017; Sen, 2009). Amartya Sen described three overlapping types of conversion factors: personal (relating to someone's particular embodied limits, talents and

abilities, dispositions, etc.), social (relating to features of economic, political, social and cultural life, for instance, language, behavioural norms, legislation and labour market conditions, etc.) and environmental (referring, for instance, to infrastructure, institutions, public goods, climate and natural resources, etc.). Conversion factors are widely acknowledged as a key source of diversity in people's capabilities (Robeyns, 2017).

The concept of *adaptive preferences* in the CA serves to recognise that when people's scope to act and achieve are strongly constrained by their circumstances, and especially when whole communities remain in disadvantaged circumstances over long periods, they often adjust their aspirations, including for capabilities, downwards in response by means of habituation or resignation (Hart, 2016; Sen, 1992). As noted above, concerns about the malleable and adaptive nature of desires has been a key motivation for scholars and practitioners adopting the CA in place of utilitarian approaches to well-being.

While Sen's account of capabilities makes clear that the structure of a person's capability set is relationally shaped by their material and social environment, his account lacks a detailed articulation of the relationship between agency and structure, and he deliberately leaves out questions of the social ontology that underpins his account of capabilities. This is unfortunate because a lack of clarity about relationality within the CA, and particularly the lack of a relational ontology of capabilities, renders the CA vulnerable to individualistic and theoretically inconsistent interpretations. For example, Dean misinterprets and misrepresents the CA when he characterises it as an "essentially liberal-individualist theory" that overlooks the interrelated nature of human social being (2009: 261). More seriously, the CA has been subject to co-option by neoliberal political ideologies that neglect the structural issues that contribute to disadvantage and perpetuate social injustice in the world. For example, in the UK context Norman (2010) appealed to a highly individualistic interpretation of Sen's CA to justify David Cameron's flagship conservative social policy agenda, *The Big Society*, which sought to empower individuals, families and communities through a regime of public sector retrenchment and a rolling back of the welfare state institutions under conditions of fiscal austerity. Norman misrepresented the CA as a perspective which is primarily concerned with supporting "individual creativity", "self-fulfilment" and allowing individuals the opportunity to "do their own thing" (2010: 128), and conspicuously failed to recognise the important role that public services and welfare state institutions play in supporting the freedoms and opportunities of individuals and communities, particularly those facing serious forms of deprivation. By ignoring the relational dimensions of the CA which sets out how capabilities are caused and constituted by social and material structures Norman seriously misrepresented the CA, reducing it to little more than intellectual window dressing for a political project promoting neoliberal austerity.

Norman is not alone in seeking to use the CA to support market-oriented policy agendas: the Australian Productivity Commission's (2017) used the CA primarily to support greater competition and 'informed user choice' in Human Services; and the World Bank (2007) incorporated the CA into its model of development in a way that "locked" neoliberal economics into laws, regulations and institutions worldwide (Benatar et al., 2011). Such politically motivated misappropriation of the CA should be resisted, particularly where the policies being advocated appear likely to contribute to greater forms of inequality which work against the pursuit of social justice and human development that the CA is intended to support.

A more robust understanding of the relational constitution of capabilities could help resist such reductive misinterpretation and misappropriation of the CA. Moreover, it could support researchers and practitioners in generating more intellectually and methodologically nuanced

capability analyses that are more practically useful and more sensitive to the people they study or aim to support.

Before moving on to consider the theoretical and methodological perspective that can support this work, we would like to stress that by advocating an explicitly relational approach to the CA we are not intending to downplay the importance of personal subjectivities or individual agency. People's own interpretations of their circumstances and relationships, their value judgements about what matters and why, and their sense of potential to act and influence must be taken seriously in order to avoid potential concerns about their misrepresentation and oppression. Neglect of people's own understanding in the study of capabilities and how they are (or could be) developed and exercised can compromise validity and constitute a form of epistemic injustice (Fricker, 2007). Our account of relationality within the CA will include attention to dialectical relationships not only between people's agentic behaviours and structural circumstances but also the interpretive sense they make of these.

3 | TOWARDS A RELATIONAL ONTOLOGY FOR THE CA

To say that someone's capabilities depend on, or are affected by, both their material and social circumstances and their agency is to make an ontological claim about what sort of things capabilities are and how they are caused. Whether this is explicitly acknowledged or not, practitioners and researchers who use the CA must make some assumptions about the nature of social reality within which human beings are situated and about how this can affect their freedoms and opportunities. We therefore locate the relational account of the CA that follows at the centre of the family of 'capabilitarian' theories. We draw on a combination of critical realism, qualitative hermeneutics and complexity theory to develop an understanding of what capabilities are and how they are relationally constituted in a way that can support the study and promotion of valued capabilities. We start with insights gleaned from critical realism.

4 | CRITICAL REALISM

CR is a broad philosophical perspective that examines social ontology, causation and the dialectical relationship between structures and agents. It can be used to inform theoretical and empirical research across the social sciences. Established in the work of Roy Bhaskar (1975, 1998), it has been developed by a growing community of interdisciplinary scholars (Archer, 2007; Archer et al., 1998; Donati & Archer, 2015; Elder-Vass, 2010; Porpora, 2015; Sayer, 2011; Smith, 2011). CR can be seen as a maximally inclusive paradigm that combines realist and critical elements of both positivism and social constructionism (Owens, 2011). CR differs from these traditions primarily because of the distinction it makes between ontology (i.e. being) and epistemology (i.e. knowledge), and because it rejects as false the central view of empiricism, that that which is equates to that which can be observed.

There is no single account of CR, but in all variants reality is understood to be composed of diverse material, psychological and social causal mechanisms. The range is vast, and includes the human biophysical (e.g. genes, hormones, cellular structures), psycho-linguistic (e.g. language), politico-economic (e.g. the distribution of economic capital in society) and socio-cultural (e.g. norms concerning appropriate behavior). Not all these mechanisms are directly observable, but they can be taken as real and present in the world in virtue of their causal

efficacy. The task for researchers is to understand the dynamic interactions between causal mechanisms in order to explain the observable events and phenomena that are of interest – from deteriorations of neurological brain function to persistent patterns of social inequality and exclusion. Researchers working with a CR perspective share positivism's view that the world is composed of real, mind-independent structural mechanisms while retaining the constructivist view that knowledge of these causal mechanisms is socially constructed, and therefore incomplete, contested and subject to multiple interpretations.

CR scholars characterise human agency as both mediated by and distinct from the interactions of underlying causal mechanisms – the various structures, relationships and circumstances – that human agents are composed of and embedded within. The key idea is that antecedent causal mechanisms create the potential for human agency and shape the conditions in which agency can be exercised. Agency is seen as an emergent and ontologically discrete product of the antecedent causal mechanisms out of which it arises. According to CR, it cannot be reduced to the structural mechanisms from which it emerges because it is qualitatively different to them.

Structural relationships do not, in a strict sense, determine agency: rather they create its grounds and shape its possibilities (Archer, 2007; Bhaskar, 1987). Equally importantly, CR suggests that agency has the potential to reproduce or transform many of the structures from which it has been generated. Although people tend to reproduce and perpetuate social-cultural arrangements when they act to implement and comply with prevailing rules or traditions, they sometimes – deliberately or otherwise – act in ways that challenge and disrupt the status quo and foster the development of novel arrangements. CR thus allows for the possibility that people living in socially disadvantaged circumstances, despite sometimes obvious difficulties, can – perhaps particularly when there is some catalytic external influence – exercise agency in ways that not only transcend but also transform their structural circumstances.

As several scholars have recognised, CR has significant potential to enhance and develop our knowledge of the way capabilities are caused and constituted (Groff, 2012; Martins, 2007; Tao, 2013). Explicit adoption of a critical realist framework can help us understand how particular capabilities – as causal opportunities and powers – can emerge as products of dialectical relationships between people as agents and the broader range of causal mechanisms that constitute their structural environments. Furthermore, the distinctive way that CR allows us to take seriously the ways that people can both be influenced by and potentially exert influence over their environments can promote nuanced understandings of freedom, oppression and social inequality within capabilities scholarship.

The CA also has potential to advance CR. While CR was primarily developed as an explanatory approach to social science, it has been extended to address questions of values, ethics and justice (e.g. Bhaskar, 1987; Sayer, 2011; Smith, 2011). The CA can provide those using CR with a complementary normative and evaluative perspective that offers a rich ethical-theoretical heritage and a powerful analytical framework for understanding and addressing concerns about what a person is able to do and become in their lives. The potential of this synthesis is evident in Andrew Sayer's (2011) call for an explicitly normative approach to social science which combines elements of CR and CA to offer a view of human social being that goes beyond the socially reductive paradigm of liberal-individualism.

Most capabilities scholars would readily acknowledge that Bert's capabilities, for example to manage his diabetes via diet, exercise and medication, are somehow shaped by his personal, social and environmental conversion factors. CR, by setting the structure-agency relationship in

explicitly ontological terms, offers a way of understanding *how* Bert's capabilities emerge from his interactions with his structural circumstances.

CR can also start to support clearer and more specific understandings of how Bert's capabilities can be constrained but not completely limited or determined by his material and social circumstances. For example, CR can refine our understanding of how Bert's capabilities to be well nourished are causally influenced by the material and social structures in which he is situated, including: the limited and precarious nature of his income; his social isolation; the depressed state of his urban environment; and the cultural norms that maintain the prevalence of cheap, highly processed food in his local retail outlets. Bert can exercise agency to some extent in choosing and preparing more nutritious food, but structural hurdles make it hard (it requires longer journeys, costs more, his kitchen facilities are limited and he was not taught to cook as a child), and so, especially when his low mood dampens his motivation. Bert tends to follow local eating customs which do not help his diabetes control or health more generally. This could, of course, change. Some of Bert's neighbours, supported by a government-funded community development scheme and working in conjunction with a farmers' market that had become established in a more affluent area nearby, exercise their agency by establishing a new co-operative food store and community café. This increases people's options for accessing nutritious food at relatively affordable prices locally, expanding Bert's (as well as others') capabilities to eat well (including in accordance with his healthcare team's advice). A former work colleague, Bob, who now helps manage the café, encourages Bert to join another former colleague in a small café renovation group that is paid in fresh food, meals and cookery classes for working on furniture and decoration. This offers Bert a welcome opportunity to connect socially with other former colleagues and neighbours – arguably expanding his capabilities for mental wellbeing as well as to engage in meaningful activity and be well nourished.

From a CR perspective we can start to understand capabilities as opportunities and powers that emerge as a product of a person's agentic interactions with the variety of causal mechanisms which constitute their structural circumstances and further influence agency potential. Bert's engagement with developments in the local food system and economy, for example, enhance his capabilities to be well nourished. The emphasis on the relational dimensions of agency provided by CR is particularly valuable as a counter to prevailing liberal-individualistic political and intellectual cultures (described above) which, by reductively prioritising attention on individuals at the expense of structural circumstances, typically misunderstand or ignore structure-agency relationships. CR thus offers researchers a distinctive theoretical platform for explicitly recognising the relational ontology of causal structures that is presupposed by the CA.

We now suggest that both the account of relational ontology suggested by CR, and efforts to address the important questions and challenges it raises, can be enhanced by two additional theoretical frames: hermeneutics (including qualitative hermeneutics), which encourages consideration of the significance of human understanding in the constitution of capabilities; and complexity theory, which further illuminates and guides investigation of the dynamics of complex systemic relations.

5 | QUALITATIVE HERMENEUTICS

The term hermeneutics derives from the Greek word *ἐρμηνεύω*, which is usually translated as "I interpret". It is used to refer both to the study of meaning and to practices that aim to develop deeper understanding of (and via) people's particular points of view. Qualitative hermeneutics

(QH) is the term for a cluster of qualitative research approaches and methodologies that focus on the meanings or interpretations that people attach to things. QH encompasses a well-established repertoire of interpretive approaches, as well as phenomenology and ethnography, and can include the research techniques of grounded theory. In this section, we consider how hermeneutics and QH can support and be used to further develop the ontological insights that CR brings to the study of human capabilities. We focus on the ways they encourage attention to the significance of interpretation for the ontological and practical constitution of capabilities.

Key to hermeneutic thought is a perspectival insight: our understanding of the world is inevitably dependent on our position within it. People are always located within particular historical and cultural relationships that provide a point of view that they cannot stand outside of (Gadamer, 1960). This dovetails with the CA, most obviously Sen's (1993) account of "positional objectivity" which explains how the positional features of a person will shape their beliefs and decision making. People can, however, widen their horizons and deepen their understanding, including of their own biases and prejudices, by conversing with others and engaging with texts and media that present a variety of perspectives. Hermeneutics is therefore not deterministic about what people can come to understand.

Recent developments in hermeneutics have also emphasised that interpretation pervades human activity and is not merely a process of rational thinking or reflection. All forms of human interaction, including uses of technology and engagement with features of our environments, are, whether consciously or not, interpretive. Indeed, pre-reflective understanding and interpretation are, as Ernst Wolff puts it, "part of the very fibre of human existence" (2014: 488). When considering what people can be and do, it is important to recognise that people may not be fully aware of, or able to articulate, all the embodied perceptions and pre-cognitive interpretations that influence their judgements and behaviours.

The use of hermeneutics in the CA is not new (Bonvin et al., 2018). For instance, Wolff (2014) described hermeneutics as "a thick heuristic tool" for the assessment of well-being within it. Deneulin (2005) illustrated the value of incorporating hermeneutic analysis within the CA through an analysis of the influence that local people's interpretations of historical patterns, events and actions have for their agency. And Deneulin and McGregor (2010) have suggested extending the use of hermeneutics within the CA along relational lines, arguing for an analytical perspective that considers how capabilities are co-constituted in the psycho-social space of "living well together". We see further value in the use of hermeneutics, particularly taken in conjunction with CR, for the development of a relational ontology of capabilities. This also has important epistemological and methodological implications.

A conception of human beings as creators and interpreters of meaning is important for understanding people's agency and how they behave. This is evident in critical realist thought, as well as broader hermeneutic traditions. Interpretation is integral to a person's sense of both who they are and what opportunities are available to them, including via their understanding of the scope of their possible actions and power to influence. Interpretation also affects a person's evaluation of past and potential actions, including their likely effects on their own well-being. Reflexive agency is, as Margaret Archer puts it, "the means by which we make our way through the world" (2007: 5). We emphasise that reflexive interpretation includes not only rational deliberation, but also pre-deliberative intuitions and emotional responses. These are shaped by personal experiences and cultural and political understandings that are integrated from earliest childhood onwards, so an appreciation of a person's biographical identity and broader lifeworld is important for a hermeneutic understanding of their capabilities.

When we exercise agency, then, we engage reflexively with an entire network of impressions, assumptions and ways of seeing the world, our own as well as other people's. In CR terms, these psycho-social mechanisms are part of the broader array of social structures and cultural formations that causally influence human behaviour, and reveal the underlying structures and processes that influence action and choice. Processes of reflexive interpretation often go largely unquestioned (Archer et al., 1998), but QH can support attention to them, and facilitate consideration of the ways in which they shape capabilities.

QH can highlight the significance of a person's *interpretation* of their own capabilities. It can also support an investigation of the formation of this interpretation, revealing how a person's interpretation is related to the material, psychological and social mechanisms that constitute their structural circumstances, and how this shapes their broader sense of identity, agency and their subsequent capabilities. QH thus supports the development of practitioners' and researchers' understanding of capabilities - understanding which, as Jens Zimmerman suggests, involves "knowledge in the deeper sense of grasping not just facts but their integration into a meaningful whole." (2015: 2).

An appreciation of the significance of interpretation in the ontological constitution of capabilities suggests that a key task for capabilities practitioners and researchers is to decipher the meanings that might be hidden beneath the surface of the situational features, actions and reports of the people whose capabilities they are assessing. Anyone who provides information on their own or others' capabilities or functionings is located in a complex and extensive psycho-social web of meanings, and their particular understandings are a subset of multiple possible understandings, reflexive and pre-reflexive. An exploration of meanings and their relationships to other causal mechanisms in people's life-worlds can help researchers interpret and clarify what people say about their capabilities and functionings, and to develop a more contextualised and coherent understanding of people's beliefs about their options and opportunities, and their subsequent behaviour. While anyone can be ignorant about key elements of their own lives, each person has a unique vantage point for understanding the circumstances that shape their lived experience, and the capacity to reflect on which opportunities matter most and why this is. Qualitative methodologies that investigate people's perspectives, experiences and evaluations can therefore play a crucial role in understanding the nature and formation of the relative opportunities held by individuals and communities. In the context of research this could draw on a range of techniques, including for example: one to one or group interviews; workshop discussions; ethnographic studies; biographical and life course narrative work; photo voice techniques, etc. Each of these - and other methods and techniques that may be effective in generating insights and appropriate for researchers and practitioners working across diverse settings and contexts - are likely to involve some combination of empathetic listening and the application of *verstehen*. While these techniques and approaches present a range of possibilities for gaining understanding of the beliefs, values and perspectives of others, QH also encourages practitioners and researchers to examine and acknowledge the limitations of their own interpretive perspectives.

We turn to Bert again to illustrate these points. Bert's doctor thought the group sessions intended to support people living with diabetes could be ideal to help him better manage his health. She reasoned that they were local, free, and would allow Bert to get some tips about managing his medicines, learn some new skills, enjoy cooking and sharing some nutritious meals, and meet and talk to other people with diabetes. To her bemusement, however, when she mentioned them to Bert, he firmly declined the offer.

The doctor might comment to a researcher:

I don't know what it is with Bert! He just rejected the idea even though I told him the sessions are free, and it's not as if he's got a job he has to go to at the moment. I thought he cared at least a bit about his health, but he just insisted "no thanks", and when I tried to encourage him, he just said "It's really not my thing". He didn't even want to try. Of course, it's his choice, his life. But it is so frustrating..."

For the purposes of illustration, we give ourselves a privileged insight into Bert's perspective – and convert into words some of what he felt emotionally as the doctor was telling him about the classes:

"I need to get out of here! Try not to panic. The doc means well. But I can't face it. I wish I could go. Yes, it would be good to get some help with the diabetes and nice to have a chat with some other folk from around here. But it sounds like I'd be going back to school! Oof, I feel sick at the thought. They'd be asking me to read and fill things in. Big words and lots of numbers to do with blood sugar and blood pressure. And cooking together? I can just imagine: "Pass that ingredient would you, Bert?", "Which one?", "It's written on the box, man!" They'd see I couldn't read it and they'd laugh. I can't go through all that humiliation again. It would be good to be able to cook a bit better, but I just can't go. Oh, I'm so fed up with this!"

A sensitive QH inquiry, for example in a conversational interview with someone Bert felt able to trust, could reveal that Bert had struggled with reading and writing since childhood (Easton et al., 2013). Humiliated by teachers and bullied by classmates, he grew up with an acute awareness of the social stigma of low literacy. A visceral fear of further exposure made him very careful as an adult to avoid letting anyone know that he could barely read. He now holds back from any social activity in which literacy might be required. (The opportunity at the co-operative shop and café felt safe, because it was unlikely to require any paperwork, and even if it did, Bert knew his former workmate would happily deal with it). Bert resents the fact that his memories of being humiliated by teachers and bullied by other pupils at school still hold him back and drag him down. He recognises that by declining to participate in the group sessions he was missing an opportunity, and that makes him feel lonely and depressed. But the anticipation of humiliation made it impossible for him to accept this offer, so he feigned disinterest in learning about his diabetes.

QH can thus deepen our understanding of the nature of capabilities, highlighting the significance of people's beliefs and interpretations for their constitution. A nuanced understanding of a person's own perspective on their situation, and of how that connects to various aspects of their biography and current environments, and others' perspectives on these, can be very important for understanding their agency and how real and realisable particular opportunities are for them. Bert's case also illustrates how QH can support understanding of why people might value or dismiss particular capabilities (including what can lie behind adaptive preferences) as well as how and why they might engage – and be effectively supported to engage – in activity to develop and exercise their capabilities.

The emphasis that QH puts on particular personal interpretations does not undermine recognition of the reality and importance of social structures for the shaping of capabilities. Consider a younger neighbour of Bert's with low literacy - we will call her Jenni – who has no qualms about joining in social activities and, indeed, readily tells people she has dyslexia and

anticipates that they will support her in situations where literacy skills are required. QH could help reveal that Jenni's different interpretations of the nature and implications of her limited reading skills were influenced by educational arrangements and childhood experiences quite different than Bert's – Jenni was taught in a system where teachers recognised and proactively accommodated dyslexia, and bullying was not tolerated.

We stress that hermeneutic approaches do not commit us to a view that individual agency, given the 'right' interpretation, can overcome any or all structural constraints. Rather, by encouraging attention to perspectival understanding, they illuminate something of the formation of adaptive preferences, the operation of conversion factors, and the constitution and development of capabilities.

QH and the emphasis it places on meaning can thus deepen our understanding of the close and complex inter-relatedness of structure and agency described by CR. We now turn to complexity theory to help develop our understanding of the ontology of capabilities further.

6 | COMPLEXITY THEORY

There is, as Melanie Mitchell notes (2009: 95), "not yet a single science of complexity but rather several different sciences of complexity with different notions of what complexity means." However, several core elements can be recognised across many variants of CT, namely ideas about interdependence, non-linearity, emergence and adaptive agency.

We engage primarily with what Castellani and Hafferty (2009) identify as the British School of CT (see, for example Byrne, 1998; Byrne and Callaghan, 2014). This was explicitly developed out of realist social theories including the work of Bhaskar (1975, 1998) and Reed and Harvey (1992), and complements the account of CR on which we base our relational ontology of capabilities. We use it particularly to illuminate the constitution of capabilities as dynamic elements within (and products of) complex systems of interaction. CT is particularly useful for investigating how particular capabilities can be developed or suppressed, for explaining causal connections between capabilities, for critiquing and avoiding the development of unduly linear views of agency-structure relationships that are sometimes implicit in accounts of behaviour and society, and for resisting deterministic and/or reductive conceptions of the structure-agency dialectic and the constitution of capabilities.

CT invites us to understand and examine the social world and its components as composed of multiple open and interconnected systems. Action within these systems operates in feedback loops, and some forms of energy or action are dampened (negative feedback) while others are amplified (positive feedback). The effects that emerge from interactions between social structures and human (and other) adaptive agents are thus highly non-linear.

Viewing the social world as a complex system means conceptualising action, freedom and relative dis/advantage in complex terms. CT requires and facilitates consideration of how capabilities are mediated by myriad structural mechanisms operating in non-linear, emergent, independent combinations. Developing a fuller understanding of the complex nature of capabilities is a rich avenue for future research, however some hallmarks of CT are already implicit within elements of capabilities scholarship. Jonathan Wolff and Avner de-Shalit (2007), for example, have noted that certain components of capability systems act as "fertile functionings" or "corrosive disadvantages" in that they can drastically affect other opportunity and agency freedoms. Martha Nussbaum (2011) has spoken of "architectonic" capabilities that organise and pervade others. We suggest that the four key ideas of CT can be used more explicitly within CA to create a conceptual

space and develop epistemological and methodological implications that enable the dynamic and complex relationality of human capabilities to be more routinely recognised and more clearly investigated.

6.1 | Interdependence

A complex system cannot be explained merely by breaking it down into its component parts because those parts are interdependent: they interact and combine to produce systemic behaviour (Byrne, 1998; Byrne & Callaghan, 2014). Since capabilities are products of the interdependent relationships between agents and their structural conditions at various levels, we require holistic rather than reductive accounts of how capabilities are caused and the effects they produce. CT suggests that our analytic focus should not be restricted to discrete commodities (e.g. amounts of money, units of information or advice), conversion factors (e.g. level of self-esteem and motivation), capabilities (e.g. to obtain and cook fresh vegetables) or functionings, but must also include the 'rules' that govern their interactions.

6.2 | Nonlinearity

A core tenet of CT is that complex systems exhibit negative and positive feedback loops that produce non-linear dynamics. This makes the outcomes of particular interventions difficult to predict. As Bob Jervis notes, "feedbacks are central to the way [complex] systems behave. A change in an element or relationship often alters others, which in turn affect the original one" (1997: 125). In complex systems, feedback is about the consequences of nonlinear, sometimes random, change over time (Byrne, 1998). While in simpler systems, feedback may be linear, predictable and consistent, in complex systems non-linearity guarantees that seemingly minor actions can have large effects and large actions can have small effects.

6.3 | Emergence

Emergence, which we also saw as a core idea in CR, describes the causal formation of mechanisms (or causal powers) from a set of antecedent causal mechanisms. CT holds that in nonlinear systems, the combination of two elements can induce dramatic new effects reflecting the onset of cooperativity between them. Over time, this can give rise to unexpected structures and events with different properties (Nicolis, 1995). The idea of emergence sensitises us to the possibility that interactive relationships between causal mechanisms can change in unforeseen ways and that new (and perhaps unexpected) capabilities, as well as the loss of capabilities, can emerge out of antecedent structural arrangements, agency interventions, and events. Even small changes in people's thinking, behavior and/or circumstances can have a significant effect on their lives.

6.4 | Adaptive agency

Human agents in the social world are understood within CT as adaptive agents in complex systems: in responding to other agents and entities in their environment, they not only follow

but can also adapt and generate new rules for deciding and acting. Perspectives matter in CT (Cilliers, 2005), which is thus amenable to the use of insights from QH. The idea of adaptive agency also extends understanding of the formation of adaptive preferences, reminding us that a person's preferences can change and contribute generatively to their choices and actions in interaction with other causal mechanisms – structural and agentic – including conversion factors and practical reason.

We return to our case to illustrate how these ideas from CT further our understanding of the constitution (and particularly the development) of capabilities and thus of where, for practical purposes, attention needs to be directed in analyses of capabilities. It seems that Bert's low literacy has had a particularly large negative impact on his overall capabilities (or wellbeing). Literacy is readily recognised as a capability that is important for the development or constitution of other valued capabilities (e.g. Wolff & De Shalit, 2013). CT can help us appreciate how Bert's low literacy emerged from and impacted his experiences of the education system as he encountered it, and how feedback loops initiated among other things by his childhood exposure to the stigma of low literacy undermined his capability for self-respect. In turn, Bert's preferences and behaviour adapted to avoid social situations in which his reading difficulties might be exposed, diminishing his capabilities to learn, to establish good social relationships and to participate in various meaningful activities, thus fostering the emergence of social isolation, which in turn likely contributed to his loneliness and depression (Easton et al., 2013; Gerst-Emerson & Jayawardhana, 2015).

Bert as an adaptive agent might, particularly in response to other changes in his community and life (which we might consider as social/capability systems), modify his 'rules' of interaction in at least some domains. For example, we can imagine that one day during the volunteer's lunchbreak at the café, Bert heard Jenni ask Bob, the organiser, for help with a form she was struggling with. When Jenni got the form out and explained what she wasn't sure of, Bob said she'd done well to get that far with it, and Jenni said she too was pleased that her reading had progressed since she joined the adult literacies class he'd told her about. Bert was amazed that Jenni was talking quite openly about her difficulties with reading, and that, far from ridiculing her, others in the café seemed understanding and supportive. It was a while before Bert found the courage to confide in Bob and later Jenni about his own difficulties with reading, but when he did, they insisted he had nothing to be ashamed of and encouraged him to tell his doctor. The doctor was also supportive, and once she realised why Bert had declined the offer of the group sessions and understood the reason for the apparent mismatch between his declared interest in improving his health and some of his behaviours, they were able to talk more productively about addressing Bert's health issues in ways that were realistic and could make a positive difference for him.

Small events (such as overhearing the conversation about the form) can have significant but not entirely predictable implications for capability development. Different interactions along the way create contingencies that could generate a variety of outcomes, but on the version we have told here, the emergent result for Bert was what might be described as an enhanced capability to hold his head high among others, and new possibilities to either develop his literacy capability and functioning or to ensure his low literacy was not so disadvantageous for other capabilities as it had been previously. Further positive feedback could have additional benefits for Bert's development of other capabilities, including those associated with the management of his health conditions.

7 | TAKING STOCK: THE IMPLICATIONS OF A RELATIONAL ONTOLOGY OF CAPABILITIES

We have used the theoretical lenses of critical realism, hermeneutics and complexity theory to outline the development of an explicitly relational ontology of capabilities. Our answer to the question of what capabilities are and how they are caused and constituted is as follows:

Capabilities are the genuine freedoms, opportunities, or causal powers that a person has to be or do things. They emerge from, and can be either sustained and strengthened or diminished or lost over time as a result of complex interactions between the person's own interpretations and actions and the dynamic nexus of material and social structures within which they live their lives. A person's power or agency to influence their own interpretations and actions, and to some extent the situations and relationships in which they are embedded, is itself a product of the complex multitude of causal mechanisms that constitute the person and their environment. Their agency can also be said to depend on, or be part constituted by, some of their particular capabilities. And particular capabilities can both contribute to and be supported by other capabilities.

Much of what we have presented, especially as we have illustrated the relevance of key insights from CR, QH and CT in Bert's case may seem in some ways obvious or intuitive, and not just to those who are very familiar with CA. This resonance may seem to suggest we have offered little new in the paper, but this is something that we can celebrate. As we noted in the introduction, our motivation for developing an explicit relational ontology was in large part to better facilitate a follow-through in research and practice of the relational commitments that we already see as key features of CA but that tend to be left implicit or only superficially explained within standard accounts. While there are strong methodological, political and cultural reasons why the relational constitution of human capabilities may continue to be overlooked, we hope that we have illustrated the benefits of drawing on CR, QH and CT to make this relationality explicit, and that this more explicit account of the relationality of capabilities can help defend the CA from instances of misinterpretation and misappropriation and foster the development of more valid and effective CA research and practice in the future. Synthesising the CA with these perspectives offers not just a deeper understanding of the CA and the relational ontology that underpins it, it also opens up fertile theoretical and methodological ground for future inquiry and practice.

Of course, much more needs to be done to develop and realise the benefits of a more explicitly relational CA in research, policy and practice, including to secure its potential contribution to social justice. Although we cannot do them justice here, we offer a few initial comments.

The nexus of CR, QH and CT offers rich potential to improve attempts to measure capabilities, for example via conceptually and methodologically sophisticated inquiries into the complex causal formation of opportunities, the existence and operation of social disadvantage and oppression, and how and why valued capabilities tend to be persistently unequally distributed across societies. Viewing the CA through the explanatory lens of a relational ontology raises important normative questions that may facilitate development of important ethical and political insights across a range of theory and practice. For example, attention to the relationship between structure and agency within the CA invites a re-consideration of notions

of personal autonomy and responsibility, with significant implications for (re)evaluation of policy and practice (e.g. Owens and Cribb [2013] with respect to public health; Owens and De St Croix [2020] with respect to education). It could also support closer links between CA scholarship and the relational ethical and political scholarship of feminist theorists such as Iris Young (1990), Nancy Fraser (1997) and Catriona Mackenzie (2014), who have understood social injustice as broadly constituted by oppressive economic, political and cultural relationships, and whose work is oriented towards challenging systems of power. In addition, an explicitly relational CA could provide more direct support for forms of political activism (e.g. those addressing injustices concerning racism, poverty, misogyny, homophobia, transphobia, disability, and/or the environment), especially where these campaigns are concerned with overturning structural arrangements that hinder freedom, well-being and equality.

But the perspective provided here also presents challenges. While CR clarifies the significance of understanding and addressing the causal mechanisms which shape personal or collective capabilities, it also reminds us that these are frequently heteronomous and often not directly observable. While QH illuminates the salience of agents' own interpretive perspectives on the world and their capabilities, and offers tools for investigating these, it also reminds us that their understandings (and this includes participants', researchers' and practitioners' understandings) will always be highly situated and somehow limited. And while CT offers a conceptual framework that supports development of systematic approaches for taking seriously the dynamic interaction of multiple influences on people's capabilities, it also suggests that the effects of interventions and the development of particular capabilities will be to some extent unpredictable. These challenges need not (and should not) paralyse research and practice, but they do strongly suggest a need for epistemic humility, intellectual and methodological pluralism and cooperation across disciplines and domains.

In our view, what is needed is a movement towards shared and actionable understandings of the complex relationship between structure and agency that recognises the potential benefits that are to be found in augmenting the CA with complementary perspectives from across academia, policy making and practice.

Our contribution to a relational understanding of what capabilities are and how they are constituted is not a panacea, but we suggest it has significant potential to support the development of more robustly relational conceptions and uses of the CA and to generate fuller understandings of the complex interdependent relationships that influence what a person can be and do in their lives. Our account, and the nuanced investigations it might support, could also provide grounds for challenging and changing routinely accepted social arrangements, policies and practices, not least where it helps us to understand the role of these in the causal formation of people's capabilities and in the production and reproduction of patterns of behaviour, advantage and disadvantage that underpin social inequality and injustice.

ACKNOWLEDGEMENTS

The idea for this paper arose when the authors met during the Human Development and Capability Association (HDCA) conference in Washington (2015). Aspects of the work were presented at subsequent HDCA conferences in Cape Town (2017) and London (2019) and at the International Association for Critical Realism conference in Southampton (2019). The authors appreciate helpful comments from participants, especially Erik Jansen, Gareth Wall, Jonathan Gross, Nick Wilson, Su-Ming Khoo, Margaret Archer and Tony Lawson. Insights for the case study were generated in large part during projects funded by the Chief Scientist Office for Scotland (CZG 2 425 led by Phyllis Easton), The Australian Research Council (DP140103863),

The Health Foundation (7209), and in conversation with Vivian Zilo, founder of the Iliso Care Society, Khayelitsha, Cape Town. We would like to thank two anonymous reviewers for constructive comments.

CONFLICT OF INTEREST

The authors declare they have no conflicts of interest relating to this manuscript. Ethical approval was not required for this research.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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ENDNOTES

- ¹ The CA, which is sometimes also referred to as the capabilities approach, takes a number of variant forms and might better be understood as a family or cluster of associated approaches (Robeyns, 2017).
- ² While the selection of these three perspectives reflect our own interests and expertise as researchers, their complementarity is evident in their shared commitment to viewing the social world in relational terms and understanding individuals' lives and relationships as part of a complex whole.
- ³ The ways in which agency interrelates with structure is well explored in CR and could be of great benefit to the CA, particularly as Sen's conception of agency was developed primarily in order to oppose economic and utilitarian arguments (Sen, 1977). However, this will require a more extensive discussion than can be undertaken here.

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How to cite this article: Owens, J., Entwistle, V. A., Craven, L. K., Conradie, I. (2021). Understanding and investigating relationality in the capability approach. *J Theory Social Behaviour*, 1–19. <https://doi.org/10.1111/jtsb.12310>