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Critical realism in empirical research: employing techniques from grounded theory methodology

Abstract

While critical realism (CR) is becoming recognised as a significant meta-theory for the social sciences, there is little guidance on how to produce research that is consistent with its ontological and epistemological assumptions. This article contributes to an emerging discussion about how CR can be applied, drawing on an example of a qualitative study that has sought to understand and explain the causes of unmet need among a group of rural labourers in Tunisia (Author, 2018). Using this study as an illustration, I show how techniques from grounded theory methodology can be usefully harnessed in the data collection, coding and analysis stages of a research project that adopts a CR philosophical and methodological framework. I illustrate how an 'abductive' variant of grounded theory allowed drawing on pre-existing theoretical knowledge throughout the research stages, while open and axial coding techniques could be harnessed for identifying and postulating CR causal mechanisms. This article should be of interest to students and researchers involved with grounded theory and applied critical realism.

Introduction

Critical realism (CR) is becoming recognised as a significant meta-theory for the social sciences. A relatively new addition in the philosophy of science, CR informs the development of novel methodologies that allow researchers to empirically examine a variety of social phenomena and to elaborate powerful causal explanations that can account for them. The potential for CR-informed research to shine light onto the underlying or 'root' causes of societal problems has reserved a role for it in social justice-oriented studies and in the development of new knowledge that can be harnessed

by civil society organisations, movements and groups in their projects for social change (Bhaskar, 2016; Sayer, 2000; Danermark et al., 1997; Collier, 1994).

This article contributes to an emerging discussion about how CR can be applied, responding to the general problem of a lack of methodological guidance for researchers keen on conducting research consistent with CR's ontological and epistemological assumptions, particularly in respect to choices around data collection, coding and analysis (Fletcher, 2016). It does this by demonstrating how Grounded Theory (GT) techniques can support the data collection, coding and analysis stages of a CR research project, indicating where these techniques can address to the demands CR puts to methodology. Ackroyd and Karlsson (2014, 45) note that the lack of accessible, CR-informed material has been a likely obstacle to the development of "interesting and insightful research", while those brave enough to try have found it necessary "to review and incorporate a large body of abstract philosophical literature" into their studies (Wynn and Williams, 2012, p.788). As the stock of CR empirical research has only really begun to emerge (Easton, 2010; Maxwell, 2012; Kempster and Parry, 2011; O'Mahoney and Vincent, 2014; Parr, 2015; Fletcher, 2016), applied critical realists have found themselves "well behind the game" in respect to methodology (Ackroyd and Karlsson, 2014, p.45).

With this in mind, the following section introduces CR as a meta-theory for the social sciences. It discusses some CR's basic components and how it informs the conduct of empirical research. GT is introduced as a methodological approach that is useful to applied CR, and an illustrative study is drawn on to demonstrate the use of GT techniques. The study, which has sought to understand and explain the unmet needs of a group of rural labourers in Tunisia, involved employing an 'abductive' variant of GT (Oliver, 2011), where pre-existing theoretical knowledge could be harnessed

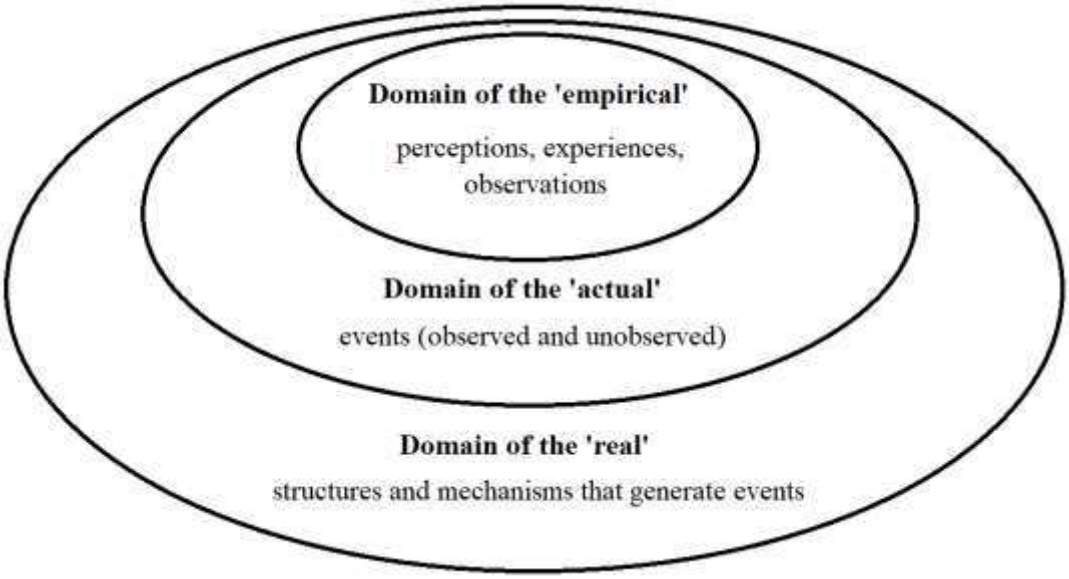
throughout the research stages and where open and axial coding techniques were used for identifying and postulating CR mechanisms. A brief background to the study is provided, before moving on to describe how the techniques were applied. The role of pre-existing theoretical knowledge, data collection and the application of coding strategies is explained and how CR causal mechanisms were retroduced. Finally, the application of GT techniques is discussed with reflection on some limitations for applied critical realism and recent claims to their incompatibility (Fletcher, 2016; Sum and Jessop, 2013; Danermark et al., 1997).

Critical realism as a meta-theory

What's meant by 'meta-theory' is a useful, "non-disciplinary category that refers to everything in the realm of thought outside theory and empirical work" (Fleetwood and Ackroyd, 2004, p.20). Meta-theory concerns aspects and matters in the philosophy of science, ontology, epistemology, causation, methodology, and so on, which are all implicated in social scientific research. When CR emerged in the 1970s (Bhaskar, 1998; 2008; 2016), it was positioned as an alternative to both positivism and social constructionism as the prevailing meta-theoretical orthodoxies of the time. Its claim that statements about the world cannot be reduced to statements about knowledge challenged orthodox reductions of ontology to epistemological questions and called for the "revindication" of ontology in the philosophy of science (Bhaskar, 2016, p.11). For the social sciences, it demanded a shift towards examining the fundamental nature of social phenomena and their properties which can be discerned from their measurable and observable characteristics and features.

The novelty of CR's approach to ontology was that it put forward a view of reality as structured, differentiated and changing (Bhaskar et al., 2018). CR maintains that the world consists of natural and social objects and structures with particular 'causal' or

77 'generative mechanisms' (Sayer, 2010; also Bhaskar 1998; 2008; 2016) that make
78 events occur, and that reality is stratified into three domains: the domain of the 'real'
79 (made up of these natural and social objects, structures and their mechanisms) the
80 'actual' (comprised of events, that is, what happens when mechanisms are activated)
81 and the 'empirical' (which refers to our perceptions and experiences of these events)
82 (Figure 1). In moving from our perceptions and experiences in the 'empirical' domain
83 toward the domains of the 'actual' and the 'real', reality becomes increasingly difficult
84 to access. Nevertheless, CR holds that the development of new knowledge about the
85 social world can be generated through the scientific discovery of objects, structures and
86 generative mechanisms in the domain of the 'real' and the conditions under which these
87 mechanisms are activated.



88

89 *Figure 1. Critical realist view of stratified reality.*

90 CR's notion of causation as a matter of 'generative mechanisms' also makes it distinct.
91 Rejecting the conventional 'successionist' approach to causation in open systems as
92 regularities between empirical events (of cause and effect), critical realists emphasise
93 the causal 'powers' and 'liabilities' which inhere in or are emergent from particular

objects, relations and structures. Causal powers denote "capacities to behave in particular ways" while liabilities refer to "susceptibilities to certain kinds of change". (Sayer, 2000, p.11). For CR, these exist as potentialities which may or may not be exercised under particular conditions, and which may not produce a regular pattern of events. What is meant by 'generative mechanisms' are simply the "causal powers or ways of acting of structured things" (Bhaskar, 1998, p.187).

In contrast to the orthodox metatheories, CR combines a realist ontology with an interpretive epistemology (Bygstad et al., 2016). It maintains that the world is real in the sense of it existing independently of our perceptions and beliefs, and that our understanding of it is socially constructed. With positivism it shares this notion of an objective reality or world 'out there' and the possibility of producing causal explanations, although it differs with it in terms of the nature of causation and the extent to which that reality can be observed. With interpretivism it shares the view that social phenomena are concept-dependent (Sayer, 2010) but differs from it in emphasising the role of real structures and mechanisms operating beyond people's conceptions of their actions and intentions. While CR designates an important place for interpretive methods in social research, it applies particular qualifications that differentiate it from strong forms of social constructionism: that communicative interaction has material commitments and settings; and that social life has a material dimension (Sayer, 2010; Bhaskar, 2016). There may be a variety of 'realities' and ways of 'knowing', but some descriptions and accounts of a given phenomenon will approximate more closely to reality than others (Parr, 2015).

Empirical research and grounded theory

How, then, does a CR meta-theory inform the aims and conduct of empirical research? Rather than attempt to either establish laws and certainties or to understand merely the

meanings of issues or events, critical realist enquiry aims to develop causal explanations that map the components of a social phenomenon across stratified reality, spelling out what the relevant objects, structures, mechanisms and conditions are to that phenomenon. Interpretation will be the starting point, because "we must at least know what agents think they are doing and why they are (in their opinion) doing it" (Bhaskar, 2016, p.105). The movement towards these explanations involves a theory-building process akin to detective work: the CR researcher begins with the experienced results of something, such as a social problem, and then works backwards in an attempt to explain why it is the case, or what must have caused it to happen. This mode of inference is referred to as 'abduction' or 'retroduction' and involves abstracting from empirical data about our concrete phenomenon while drawing on insights from pre-existing knowledge and experiences of the same phenomenon elsewhere. Abduction involves theoretically redescribing or recontextualising the phenomenon in question while retroduction is a thought operation that involves postulating relevant causal mechanisms that might account for it – though in practice the two overlap (Danermark et al, 1997; Bhaskar, 2016).

One set of techniques suggested as useful for synthesising data and making inferences about causal mechanisms and conditions is grounded theory (Oliver 2011; Kempster and Parry, 2011; 2014). As one of the more prominent research methodologies, GT's movement from empirical data towards abstract theory resonates with the CR requirement to move from the 'concrete' towards a causal explanation by means of "abstraction and careful conceptualization" (Sayer, 2000, p.19; also Kempster and Parry, 2011). As originally formulated by Glaser and Strauss (1967), GT methodology is highly exploratory in approach, requiring the researcher to enter the field relatively uninhibited by pre-existing theoretical knowledge and to gather comparable data about

144 a general phenomenon.[1] Data are compared and coded over fieldwork sessions, and
145 concepts and categories are distilled out and linked together in order to generate a theory
146 that is grounded in that data.

147 GT has had both its advocates and detractors in the emerging conversation about how
148 to apply critical realism. On the side of the detractors, the inductive and empiricist
149 qualities of GT raise compatibility issues vis-à-vis the abductive or retroductive
150 character of CR and its notion of stratified reality (Fletcher, 2016; Sum and Jessop,
151 2013; Danermark et al., 1997). According to this view, the GT idea that theory should
152 'emerge' entirely from the data and its denial of a role for pre-existing theory at the
153 beginning of a research project provides little for moving beyond surface appearances
154 and for getting at underlying social structures and mechanisms.

155 In perhaps the most comprehensive assessment of GT's compatibility with CR however,
156 Oliver (2011) identifies several areas of agreement between the two that supports the
157 significance of GT to CR. The most significant of these concern contemporary
158 developments within GT that have moved the methodology out of its empiricist and
159 inductive caricature into something resembling a "family of methods" (Bryant and
160 Charmaz, 2007, p.11) capable of operating across different epistemologies (Oliver,
161 2011). While early GT was satisfied with formulating claims about objective reality,
162 more recent constructivist engagements have developed the methodology further for
163 studying processes of meaning-making and for getting at tacit and implicit meanings
164 and actions which might not be registered in empirical data (Charmaz, 2006; 2017). At
165 the same time, a parallel shift within GT away from induction towards abduction has

[1] GT was developed as an inductive approach to theory building which would challenge the dominant 'logico-deductive' method that Glaser and Strauss claimed was responsible for producing abstract theories with little or no connection to concrete social life. Students were advised to defer compiling literature reviews until after data collection to avoid tainting their research with preconceived ideas and theories (Glaser and Strauss, 1967; Dunne, 2011).

brought grounded theorising into alignment with CR's mode of inference. Whereas early grounded theorists were advised to resist conducting literature reviews in advance of data collection, contemporary grounded theory permits the researcher to handle "preconceived analytical categories" and to draw on "pre-existing theoretical knowledge, hunches and hypotheses as necessary 'points of departure' and building blocks for the development of more abstract theory" (Oliver, 2011, p.10; also Strauss, 1987; Corbin and Strauss, 2008; Kempster and Parry, 2011; 2014; Kelle, 1995; 2007; Thornberg, 2011).[2] Much contemporary GT has moved in this direction already, as practitioners have had to contend with the theory-laden nature of observation and the logical problem that induction cannot itself generate theories[3] (Kelle, 2007; Reichertz, 2007; Timmermans and Tavory 2012; Richardson and Kramer, 2006; Corbin and Strauss, 2008; Charmaz, 2006; Thornberg, 2011).

Employing GT techniques

Applying critical realism in this study involved drawing on these developments for addressing both the phenomenon of interest and its meanings, and approach the data with preconceived concepts and categories (Oliver, 2011). Doing this required making decisions about data collection, coding and analysis that drew on GT's repertoire of methodological techniques. Table 1 shows the formal stages of a CR-informed research project (Danermark et al., 1997), the demands put to methodology and the GT techniques employed in the illustrative study. The first stage involves close examination of empirical data while subsequent stages involve an increasingly abstract mapping of

[2] Kelle (2007, p.147) describes extant theory as a "heuristic framework" which "helps the researcher to focus attention on certain phenomena in the empirical field."

[3] Pierce, who introduced abduction in the 1930s, held it to be "the only logical operation which introduces any new ideas; for induction does nothing but determine a value, and deduction merely involves the necessary consequences of a pure hypothesis" (Peirce, 1934, cited in Timmermans and Tavory, 2012, p.171).

187 the concrete phenomenon's components across the domains of stratified reality. The
188 final stage, which involves examining the combined effects of those components (Sayer,
189 2010), is presented as a distinct stage although in practice it was undertaken iteratively
190 alongside stage 3.[4] While literature reviews cannot be characterised as GT techniques,
191 they have been included in Table 1 for their significance in this research process and
192 given differences in opinion over the place of them in GT. The next section provides a
193 brief background to the study before moving on to show how the research was
194 conducted and decisions made.

Formal stages of a CR research project	Demands	GT techniques
1. Description (i.e. describe the event or situation, drawing on people's interpretations and reasons)	Initial exploration of the literature for identifying: • existing concepts and arguments • empirical studies • historical evidence	Literature review in advance of data collection
	Initial exploration of empirical data to identify: • people's understandings of what they are doing and their reasons • possible objects of interest • tentative relationships and connections, concepts and categories	Theoretical sampling; open coding; comparative method
2. Analytical resolution (i.e. identify core objects/components of the phenomenon of interest)	• Identification and specification of demi-regularities in the data • Specify the core objects and begin laying out their properties and connections	Theoretical sampling; early stages of axial coding (diagramming); comparative method
3. Abduction and retroduction (i.e. redescribe the components in terms	• Generate concepts and categories at increasingly higher levels of abstraction and lay out their properties and connections	Axial coding alongside ongoing review of the

[4] Danermark et al. (1997) note that these formal research stages can occur concurrently rather than chronologically in research practice and it is often necessary to switch between different stages.

of theories about relations and structures and suggest mechanisms that might be at play)	• Confront data with theory; identification of areas of the literature and theoretical knowledge that are significant to emerging data, concepts and categories • Assess the explanatory power of these theories and/or the manner in which theories deal with different dimensions of social reality.	literature; comparative method
4. Concretisation and contextualisation (i.e. examine the combined effect of abstract components in concrete situations).	• Confront theory with data; testing against previous cases and emerging data	

Table 1. GT techniques employed in the study.

Background to the study

The study sought to understand and explain the unmet needs of a group of rural labourers in Cap Bon, Tunisia, as an independent research project that is part of a larger collaborative project on 'Transformative Justice in Egypt and Tunisia'. This larger project counts on a number of academic institutions and local organisations, and engages with a diversity of populations, communities and groups in both these countries in an attempt to draw out their experiences of everyday injustice and 'structural violence', as well as priorities for change in contexts of democratic transition.[5] As is known from elsewhere, these issues tend to be overlooked by existing transitional justice mechanisms (Gready and Robins, 2014) and so the project has sought to generate a new evidence base which brings social-economic matters to the foreground and

[5] While Tunisia's democratic transition has been relatively successful, the restoration of military rule in Egypt between 2013-2015 and the return of repression has thwarted initial prospects for democratic change.

ideally find ways of addressing them through more 'transformative' agendas for practice.

This study of rural labourers is one of several studies initiated in Tunisia. Fieldwork was conducted in the Cap Bon region with small landowning farmers, renters and sharecroppers who pay rent to landlords as a portion of the crop yield or its market value equivalent. The aim of the study has been to respond to an 'epistemological gap' in the existing literature by laying out how social-economic harms in transition societies can be identified, examined and explained through social scientific enquiry. The study sought to proceed from an examination of participants lived experiences towards the social structures and generative mechanisms that underpin harm in this particular rural context. The choice of rural focus has to do with the rural nature of poverty in Tunisia (Author, 2018) and because rural economic issues were an important source of grievances leading up to the Tunisian Revolution in 2010/11, as a review of the literature revealed (Gana, 2012; Ayeb, 2012).

Pre-existing theoretical knowledge

Keeping consistent with a CR mode of enquiry and an abductive GT approach, existing concepts, arguments, empirical studies and historical evidence were examined before data collection, and over all remaining stages of the research process. This examination occurred at two tiers: at the higher tier, a largely normative transitional justice literature that provides political, moral and philosophical concepts that support and shape post-conflict and post-repression practice (Franzki and Olarte, 2014), and which frames the study problem; and at the lower tier, a much broader literature on rural poverty studies and peasant studies that reflects the choice of case and which could help inform the development of explanatory theory. This lower tier literature considers and examines poverty and depravation in social relational terms, and represents a convergence of

agrarian political economy on the one hand and psychosocial and relational/symbolic approaches on the other (e.g. Borras, 2009; Bernstein, 1992; Harriss, 2007; 2012; Scoones, 2015; Wood, 2007; Mosse, 2010).

Prior to fieldwork, my initial examinations of these literatures allowed me to develop working research questions and study goals, and gave me some sense of what relationships and mechanisms I could expect to find at play, and what empirical data could be useful and how to interpret and understand that data (Maxwell, 2012; Corbin and Strauss, 2008). A critical realist conceptualisation of 'need' (Ramsay, 1992; 2004; Bhaskar, 2009; Sayer, 2004; 2011; Assiter and Noonan, 2007) suggested an approach to qualitative data collection where data would be gathered from people about their experiences of lack or social ills as a means of getting at their 'real', unmet needs and the underlying social, economic or political arrangements and structures that mediate them. Important to note here is that theoretical knowledge was treated as provisional only. While it gave shape to the research process at the beginning, it neither constituted a "fully coherent network of explicit propositions from which precisely formulated and empirically testable statements can be deduced" (Kelle, 2007, p.147) and hence nor did it determine the research outcomes. Rather, I would examine and draw on extant theory as a heuristic (Kelle, 2007) to the extent that it helped illuminate the research phenomenon or aspects of it, and as I was confronted with empirical data in the field. In this sense, abduction was not a distinct stage in this study that followed data collection but one that started from the very beginning by way of the combining of observation and theory.

Data collection

With some insights from the literature, a set of initial interview questions was drawn up on the basis of what themes looked like they might be relevant, and included people's

relation to the market and state. Semi-structured interviews allowed for a discussion of the questions and topics of relevance to the research as well as to pursue related and relevant lines of enquiry that might arise. The question format also gave space for participants to raise and discuss issues that might be important to them, which is also in keeping with a 'transformative justice' concern for prioritising the voices of marginalised and excluded groups (Gready and Robins, 2014).

Just as with GT, the exploratory mode of the research allowed interview questions to be modified over the course of data collection on account of what became more or less relevant and interesting and what we wanted to know. After several weeks of fieldwork, a decision was made to continue sampling only sharecroppers from among the larger population of 'small farmers' in the region. This decision was informed by a growing awareness that sharecroppers, as labourers, were more structurally disadvantaged than other 'small farmers' in the region, and because this latter category obscured nuanced class differences which were becoming increasingly relevant to the analysis. Interviews became centred around sharecroppers' experiences with landlords, money lenders and agri-industrial actors as important sets of relationships that were gesturing towards the presence of underlying structures with causal significance. At this point, the data was pointing towards similar sets of experiences among research participants, such as their feeling instrumentalised by other class actors for the purposes of profit making, and multiple forms of insecurity rooted in the potential for crop failures, perpetual indebtedness and fluctuating household incomes.

Data coding

Very little has been said in the applied CR literature about data coding, as Fletcher (2016) has already observed. A notable exception is Fletcher herself, who applied explicit provisional codes identified from the literature to her first round of coding. The

process of data coding in this study was an effort at marrying up GT's open and axial coding techniques with CR, with extant theory continuing to serve as a heuristic. Open coding breaks open or 'fractures' the data to "consider all possible meanings" (Corbin and Strauss, 2008 p.160) while axial coding reassembles it. Here, the axial coding strategy allowed the identification of CR 'demi-regularities' or "rough trends or broken patterns" in the data (Fletcher, 2016, p.5) and the relating of these to other concepts and categories through a framework of relationships informed by CR. Open and axial coding techniques have been taken up by other, non-GT qualitative studies since Glaser and Strauss introduced them, though this study's use of constant and theoretical comparisons for informing a unique and rigorous approach to sampling and coding keeps it a firmly GT approach. Constant comparisons involve comparing incidents in the data while theoretical comparisons involve comparing our experiences or insight from the literature with some aspect of our phenomenon of interest (Corbin and Strauss, 2008).

Open coding

Data was initially coded in a line-by-line format, where each line of written data was coded in verbatim and for process (Saldaña, 2009). Verbatim codes, such as 'working for nothing', 'no one listens' and 'we are being colonised' preserved the voices of participants and their interpretations of their situation, while process codes captured conceptual items, such as 'rising costs'. Data segments were compared in order to identify similarities and differences between them, which also included the farming practices and relationships that research participants had to other actors and objects. These sorts of comparisons were useful for not losing sight of the connections within particular cases, something Maxwell (2012) suggests can interfere with the development of realist explanations. Codes were formulated and stored in a codebook, and provisional categories generated which captured several codes at once. Less

relevant codes were jettisoned and labels for the codes and categories were refined over the subsequent axial coding cycle. One particularly useful technique borrowed from GT was memo-writing, which served as a space for reflecting on the data, how it is coded and categorised, for discussing the data in light of pre-existing theory, and so on (Corbin and Strauss, 2008; Charmaz, 2006).

The decision to avoid codes identified from the literature in the first coding cycle was intended to facilitate this consideration of 'all possible meanings'. Rather than a form of naïve empiricism, this was an effort at remaining open minded to what theoretical possibilities it might contain (Charmaz, 2006; Dey, 2006) and made it consistent with Strauss' (1987, p.29) depiction of open coding as a strategy "grounded in data on the page as well as on the conjunctive experiential data, including knowledge of the technical literature which the analyst brings into the inquiry." Particular codes and rough categories were anticipated to appear given that the interview questions were organised around themes, insights and hunches from the literature, and as participants were recruited on the basis of what we were interested in. But the strategy also allowed capturing items and nuances that were new, unexpected or puzzling in light of my own preconceptions and knowledge. This would lead me to return to the field, and to transcripts and the literature for insights into how to interpret, connect and compare them. So, while the open coding strategy involved a deep exploration of the data, it also marked the beginning of my relating these data to new and existing frames of reference, and to scope out the possibilities for theoretically redescribing it, as demanded by CR enquiry.

Axial coding

The transition to a more focused form of axial coding that could draw more explicitly on substantive theory and which could work with CR assumptions and concepts of

structures, powers and so on, was automatic at first but was later pursued as a formal coding cycle. The axial coding strategy employed here sought to identify and make explicit the connections between concepts and categories, but it involved retrofitting its framework with CR ideas. Strauss (1987, p.64), who pioneered axial coding, suggested the strategy involves first

> laying out the properties of the category, mainly by explicitly or implicitly *dimensionalizing it…Second, the analyst hypothesizes about and increasingly* can specify varieties of conditions and consequences, interactions, strategies, *and consequences… that are associated with the appeara*nce of the phenomenon referenced to by the category. Third, the latter becomes increasingly related to other categories.

Strauss' emphasis on conditions (or causal conditions), actions and interactions, strategies and consequences constitutes what he referred to as a 'coding paradigm' but its pragmatist and interactionist elements[6] made it difficult to employ in a way that is consistent with CR. It contains assumptions about structure and action that diverge from CR, and as Dey (2006) has suggested, assumptions about cause and effect that require practitioners to demonstrate causation through the identification of empirical patterns by comparing cases.[7] As we saw earlier, this conception of causation has been taken to task by critical realists.

The response in this study was to take the notion of a coding paradigm seriously but to draw on explicitly on CR ontology. This involved retaining Strauss' first requirement

[6] See chapter 1 of Corbin and Strauss (2008) for an overview.

[7] Glaser, who criticised Strauss' axial coding for "forcing theoretical coding concepts on data to the max", nevertheless seems to have held onto the same idea about causation: "a causal condition or more simply, a cause, is a category or property that leads to the occurrence of another category or property. How causes emerge will be obvious to the analyst, as will any other theoretical code. An underlying pattern of several incidents, when constantly coding and comparing, emerges and appears causally related to a main concern" (Glaser, 1992, p.63-64).

to examine and lay out the properties of categories arrived at through open coding, but to proceed through a modified coding paradigm. First, 'demi-regularities' were identified from the data by way of comparison that pointed towards common experiences of physical and psychological suffering. These were experienced by research participants in terms of and associated with low incomes and consumption; overwork and fatigue; perpetual indebtedness; feelings of being instrumentalised by other actors; uncertainty in their livelihoods and the loss of control; and a lack of meaningful work and alternative livelihood opportunities. These particular findings were consistent with other qualitative studies and surveys conducted in transition societies (e.g. Pham et al., 2009; Vinck and Pham, 2014; Robins, 2013), as well as elsewhere in Tunisia (Andrieu et al., 2015), which have found individuals, communities and groups raising their experiences of poverty and insecurity as priorities.

With these identified, the data was re-examined for building a picture of the social arrangements or structural context in which livelihoods were pursued and which could begin to account for the identified regularities. In this vein, data was coded for individual potentials expressed in CR terms as powers and liabilities. For example, sharecroppers' power to acquire production credit or lenders' power to demand repayment. The presence of these powers and liabilities, as CR makes clear, is not the same as their activation, and they can be coded independently of their empirical effects (or 'consequences' in Strauss' paradigm). Powers can be activated or left inactive, or they can be activated but not effected due to the presence of countervailing powers (O'Mahoney and Vincent, 2014). CR's emphasis on stratification and emergence allowed building a picture of various complex chains of liabilities at various strata, some of which were active and some whose activation or inactivity depended on yet more sub-level mechanisms and contingent conditions. Alongside, data was further

coded for relations and structures in order to begin locating these common powers and liabilities in the relational contexts from which they derived. Coding for these involved comparing and connecting objects and practices, as well as the meanings attached to them, in each case and across cases. Diagramming was a particularly useful here for mapping relationships and connections and producing qualitative descriptions of these.

In sum, these steps led to a picture of the distribution of powers and liabilities among different classes of actors involved in agriculture and pointed towards three distinct structures into which sharecroppers were simultaneously inserted. The first was the landlord-tenant structure, which underpins sharecropping as a system of agricultural production; second was the farmer-supplier structure, which refers to relations between farmers and private sector actors controlling access and distribution to farming inputs, such as seeds and fertilisers; and the third was the farmer-processor structure which sees landlord-tenant production incorporated into commodity chains that link producers to consumers through agri-food processors and private storage bodies. These structures connected and interpenetrated by means of material resource dependencies and flows, and shared cognitive categories such as knowledge of who does what in production and exchange and an understanding of farming's 'rules of the game'. In any situation, the range of powers, liabilities and structures at play will be large, but the data indicated these were most significant for explaining the empirical findings.

Abduction and retroduction

As indicated, abduction and retroduction in CR involve theoretically redescribing a phenomenon of interest and identifying mechanisms that might account for it and how they behave. By combining observation with theory through the data collection and coding stages, I was able to gradually identify and narrow down the relevant core areas of substantive theory and to redescribe the empirical findings in terms of that theory.

Subsequently, common experiences of suffering could be connected to these social structures by means of these two general mechanisms which were active and were depriving people, as labourers, of access to material and non-material objects for satisfying needs.

In terms of the data's redescription, drawing on a CR conceptualisation of need allowed redescribing people's experiences of suffering as evidence of unmet need at the level of the 'real', and which were both material and psychosocial in nature: namely, needs for social-economic security, relatedness, esteem and self-worth and self-realisation (Ramsay, 1992; 2004; Collier, 1987; Bhaskar, 2009; Jones, 2006; Sayer, 2004; 2011; Assiter and Noonan, 2007). These could be captured because this conceptualisation emphasises the difference between 'real' objective need as a trans-historical phenomenon on the one hand and its empirical manifestation on the other, which is socially and culturally shaped and historically situated (Ramsay, 1992). Had I drawn on theories of need that eschew CR's notion of stratified reality, emphasis on the social arrangements of causal interest would have been lost because data collection and analysis would have gone in different directions: from a phenomenological account detailing how needs are socially constructed among this group to a 'naïve empiricist' account of needs expressed as 'wants', 'preferences' and 'demands' and a set of characteristics impinging on participants' capacities to satisfy them through market mechanisms. This naïve empiricism underpins mainstream 'residual' approaches to poverty, and are unable to produce depth explanations of the kind this study sought after.

Further, what had begun as a wider livelihood focus had become reorganised and narrowed over the course of data collection and analysis towards an examination of the class-centredness of unmet need among sharecropping farmers. Drawing on 'relational'

perspectives on poverty allowed theoretically redescribing sharecroppers and their structural context using relational concepts of class, economic power, exploitation, insecurity and so on. Sharecroppers were conceptualised as one of many "classes of labour" (Bernstein, 2010, p.111) in the region, and each structure thought of as a distinct method of wealth extraction in production and exchange: rent (landlord-tenant); interest and debt (farmer-supplier), resource transfer (farmer-processor). The convergence of these three methods in participants' livelihoods led me to conclude that these livelihoods were the basis of a general mechanism of exploitation, understood as the appropriation of surplus labour from one group or class for the enrichment of another (Byres, 2003). Through insights from the literature, these structures could be historicised as part of a process of agrarian change in the region and linked to other structures and processes at higher scales, such the wider system of generalised commodity production and a policy context characterised by state withdrawal from the sector (deregulation, limited investment, reduction in support for small farming) in favour of fostering a more business-friendly environment.

As well as managing the flow of material resources, the structures were identified as exposing their participants to sets of disciplines and compulsions which were setting limitations to their autonomy, such as when they were required to forfeit decision-making over planting, cultivate clientelist relationships with other actors, and participate in exposing their households to structural risks as conditions for their participation in agriculture. Through this redescription, I came to conclude that social subjugation was a second possible mechanism that accompanied economic exploitation, and which captured its non-material dimensions and would explain its psychosocial consequences. Two regularly recurring complaints, "we are working for others" and

453 "we are being exploited" captured participants' sense of this 'social incarceration' as
454 their declining autonomy over their work and lives and their diminished prospects.

455 Given that these structures were need-frustrating, what explained participants'
456 cooperation and conformity? The place of agency in this picture wards off a
457 deterministic approach of structure, and kept it consistent with CR approaches to
458 structure and agency which emphasise their iteration over time (Bhaskar, 1998; Archer,
459 1995). Cooperating and conforming was generally assured by the absence of alternative
460 livelihood opportunities, but it also indicated these structures were enabling as well as
461 constraining, as CR suggests. On the one hand, certain needs were unmet through
462 farming livelihoods, while on the other, seasonally renewing these relations, or
463 (re)acquiring the structural position of labourer, meant acquiring powers to pursue
464 money incomes for satisfying other basic needs, such as for food and clothing – even if
465 that level was considered unsatisfactory. In the absence of other mechanisms that could
466 mitigate the effects of exploitation and subjugation (such as social protection), agents
467 were acting in a context where needs were pitted against one another, while their
468 decisions and actions were contributing to the reproduction of these relations over time.
469 Though these trade-offs may only have been expressed at the level of practical
470 consciousness, for some participants they were reflexive and explicit. As one
471 sharecropper put it, "the farmer is a part of agriculture, firstly. He lives from agriculture.
472 His life is agriculture. He doesn't have other options. If he doesn't work and produce
473 he'll die from hunger." These trade-offs were consistent with findings from other
474 studies emphasising how the poor are often required to secure conditions for their
475 livelihoods at the price of dependency, autonomy, and "truncated ambitions of self-
476 improvement and advancement" (Wood, 2003, p.456).

Concluding discussion

How well has the approach served its purpose? The application of GT techniques informed by CR succeeded in drawing out generative mechanisms that connected unmet need and social class, with the explanation produced being one that has the required level of causal depth. The approach was ultimately useful for moving from an analysis of the empirical or 'concrete' experiences and realities through a mode of inference and abstraction that permitted getting at the 'real' relations, structures and mechanisms of causal interest, and illustrates the utility of GT for root cause analysis and applied critical realism more generally. Some critical realists reject GT on the grounds of its 'naïve empiricism', yet this study was able to harness more recent developments in GT, namely the shift towards abduction and the possibility of handling preconceived analytical categories to employ its techniques for producing a CR explanation. The techniques are useful for applied CR qualitative research that involves work with communities, and its value for this study is found in contributions made towards supporting the re-emerging significance of class in rural poverty studies (Campling et al., 2016) and providing an illustration for the largely normative transitional justice literature of how one might go about developing new knowledge about the structural sources of harm in transition societies.

That said, while the GT approach in this study recognised higher-level structures and processes (e.g. generalised commodity production and state withdrawal), these were not the primary objects of study and could not be examined with these techniques. Examining these within the same project, if desirable, would have required additional data gathering and analytical techniques since this local level data can tell us by itself very little about what is going on at other scales, such as the way local dynamics are shaped by the disciplining effects of international organisations on national economies

and governments or the way national economies have been incorporated into the world economy. This should be kept in mind in future studies. The choice to keep the local in the foreground while aiming for causal depth required making connections between these findings (i.e. relations, structures and mechanisms) and higher-level processes that had already been examined in the existing literature. The study's linking in this way, Sayer (2010, p.168) suggests, is not ideal but acceptable since the multitude and complexity of social structures means analyses may require "reference to things lying beyond the boundaries of the object as originally defined and hence an expansion of an already complex field of study."

Further, while the highly exploratory character of the GT approach was an asset in this study, the techniques might be less useful to CR researchers who already have a strong idea of the mechanisms and actors they want to examine in a concrete context, or who have a large degree of familiarity with the community, field or topic area. Empirical research informed by CR will always be exploratory to some extent, but in these cases a less exploratory and more deductive research design might be more useful, and alternative research methods employed accordingly (e.g. Chung, 2017). From this, I want to suggest that the discussion move forward by considering the relation of GT to applied CR as one of suitability for a particular research project, or exploratory emphasis, as opposed to a purported incompatibility of their modes of inference.

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