

(Re)Grounding grounded theory: a close reading of theory in four schools

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Abstract

The debate over what counts as theory has dominated methodological conversations in grounded theory research for decades. Four of the schools of thought in that debate – Glaserian, Straussian, Charmazian, and Clarkeian – hold different assumptions about what theory is and how it is made. The first two schools understand theory as an abstraction that exactly accounts for exceptions. The second two schools understand theory as a process of describing voices hidden from public view. While Glaserian and Straussian coding processes focus on coding exceptions, Charmazian and Clarkeian coding processes focus on building a story of the participants or social phenomenon. This article attempts to clarify the goals of the schools in an effort to overcome the debate about which kinds of research count as grounded theory and which do not.

Keywords

coding, constructivist grounded theory, grounded theory, epistemology, formal grounded theory, quality criteria, research methods, situational analysis

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Introduction

But is that really grounded theory?

Grounded theory has become one of the cornerstones of qualitative research in the social sciences. And, as with any important cultural artifact, it continues to attract fervent debate. Interestingly, though, these debates have largely forgotten the critical question, *what is grounded theory supposed to do?* This lack of attention-to-purpose has trapped grounded theory's methodological debates around what 'counts' as grounded theory research: Can a researcher pursue formal theory as part of a constructivist research approach? Can the coding tools of early grounded theory researchers be used to do social justice research? Our close reading uses two linked arguments to initiate conversations that work to release this trapped debate.

The first argument addresses the notion of theory in four 'schools' of thought on grounded theory: Glaserian, Straussian, Charmazian, and Clarkeian. While many scholars have taken up and elaborated grounded theory methodology, we suggest that these authors have generated four unique methodological systems under which other contributions to the field can be considered (Allen, 2010). Indeed, the claim that there are different approaches to conducting grounded theory research is not new (Heath and Cowley, 2004; Morse, 2009; Stern, 1980). It became clear in the early 1990s that consensus about grounded theory was unlikely when its founders launched a caustic debate (Melia, 1996). Debate continues today around what it means to do theoretical research grounded in data (Bryant, 2007). Yet, what 'a theory' is, how a reader interacts with it, and what its purpose is, has escaped close analysis. Our first argument will focus on problematizing how grounded theorists understand *what counts as grounded theory*.

The second argument focuses on two methodological aspects of grounded theory. The first aspect considers the role of description in grounded theory. Early grounded theorists defined themselves *against* ethnographers (Crotty, 1998) whom, they claimed, produced 'researched description' instead of 'sociological theory' (Glaser and Strauss, 1967). Debate continues today around where description ends and theory begins in grounded theory research (Greckhamer and Koro-Ljungberg, 2005). The second aspect regards accounting for exceptions to a theory within that theory. Ultimately, our second argument will focus on linking choices grounded theorists make during the research *process* that push the research *product* toward 'description' or toward 'theory.' Our goal is to analyze how conversations about methodological approaches such as coding may overemphasize differences between the schools and obscure core epistemological similarities. If grounded theory across all four schools is a methodology for analysing social processes based on the precepts of symbolic interactionism and pragmatism (Aldiabat and Navenec, 2011; Glaser, 1978; Strauss, 1987), then what fundamentally differentiates between the four schools is not the epistemology of the school itself but rather the position assumed by the researcher for answering specific questions at a specific time and place (de Gialdino, 2009). For Urquhart (2013), grounded theory 'is orthogonal not only to the type of data used but can also be appropriated by researchers with different assumptions about knowledge and how it can be obtained' (2013: 36). Making this shift in accountability to researchers instead of schools calls into question previous assertions that good

grounded theory research sticks purely to using methods from one of the four schools (Chen and Boore, 2009).

Our analysis attempts to clarify exactly how the tools of coding are used in each of the four schools. We hope doing that work helps researchers attempting to dip into each of the four schools. The walls of the schools were erected by the epistemological boundaries of the time and social context in which each of these authors were writing. Better understanding how they differ may help qualitative social scientists to perform symbolic interactionist research that transgresses traditional boundaries of the grounded theory schools, boundaries which may be more permeable than once thought.

Four schools of theory on grounded theory

Each of the originators of the four schools *use* the word theory differently. In the original conception, a research product is a grounded theory simply if it ‘explains or predicts something’ (Glaser and Strauss, 1967: 31). The simplicity of that definition falls away when the question is extended to ask what it means to explain or predict, what form the explanation or prediction takes, or how a reader should interact with it. For Glaser a grounded theory is abstract, for Strauss it captures complexity, for Charmaz it is about theorizing an argument about the world, and for Clarke it is about theorizing comparisons. The stark division between theory as a noun in the first two cases and theorizing as a verb in the second two is deliberate and grounded in the literature. This delineation made by Charmaz and Clarke is just one example of the lack of consensus over what theory is. The citations in Table 1 introduce this basic premise of difference.

We have deliberately chosen to use the term ‘schools’ as a means of comparison. For some, there are *two* ‘versions’ (Denzin, 2007; Urquhart, 2013), ‘strands’ (Urquhart, 2013), ‘approaches’ (Heath and Cowley, 2004), or ‘models’ (Melia, 1996) of grounded theory, that of Strauss and that of Glaser. We have chosen to not use those terms to avoid the notion that there are only two schools of grounded theory. Following partially in the footsteps of Morse (2009), we have also chosen to opt out of using proprietary names given to the schools by their founders themselves. ‘Formal’, ‘traditional’, and ‘classic’ are adjectives used by Glaser to distinguish Glaserian grounded theory from other approaches (Glaser, 2007). Charmaz uses ‘constructivist’ to distinguish Charmazian grounded theory (Charmaz, 2014). And Clarke uses ‘situational analysis’ to distinguish Clarkeian grounded theory (Clarke, 2005). We have instead used the names of the schools’ founders because it allows us to actively demonstrate that the four schools are stances assumed by persons writing into specific historical and cultural contexts and are not permanent boundaries.

We have chosen to focus on the technical details of the schools in asking ‘how do each of these authors present their case for theory’? We wish to acknowledge, however, that the stances of these authors are rhetorical ones. We think of the seminal writing in the schools as performances of epistemology for specific audiences at a culturally-bound time and place. We welcome researchers to find connections between their own work and more than one of these now clearly distinguishable performances.

Once we have laid out the idea of theory in each of the schools, this article will move on to provide empirical examples of the coding tools used by each and their subsequent

Table 1. Positions on the nature and purpose of theory in grounded theory.

Glaser and Holton (2007)	'In the case of qualitative data, the explicit goal is description. The clear issue articulated in much of the literature regarding qualitative data analysis methodology is the accuracy, truth, trustworthiness or objectivity of the data [while] [t]he conceptual nature of classic GT renders it abstract of time, place, and people.' (2007: 1–2)
Strauss (1987)	Grounded theory 'is designed especially for <i>generating and testing theory</i> ' (1987: xi, emphasis in original) and privileging 'higher-level' (1987: 242) formal theories which 'capture a great deal of the variation' (1987: 8) that characterize social phenomena such as socialization rather than substantive theories pertaining to an 'empirical area of enquiry such as... professional education.' (1987: 242)
Charmaz (2006)	'Theories present arguments about the world and the relationships within it... My preference for theorizing – and it is for theorizing not for theory – is unabashedly interpretive. Theorizing is a <i>practice</i> ... The fundamental contribution of grounded theory methods resides in offering a guide to interpretive theoretical practice not in providing a blueprint for theoretical products.' (2006: 128, emphasis in original)
Clarke (2005)	'[A] strategy for pulling grounded theory around the postmodern turn is asserting the analytic sufficiency of sensitizing concepts, analytics, and <i>theorizing</i> for solid grounded theory research. This replaces the pursuit of substantive or formal theory advocated in traditional grounded theory... More modest and partial but serious, useful and hopefully provocative... The possibility of analytic extension of theorizing... is accomplished through the use of comparisons rather than theoretical formalization and claims of transcendence.' (2005: 28–29, emphasis in original)

scholarly products. We have threaded examples of empirical work from each school throughout the article.¹ For examples of Glaser's and Strauss's approaches we have used the thought experiment of the maître d'hôtel discussed by Glaser in *Emergence vs Forcing* (1992) and by Strauss and Corbin in *Basics of Qualitative Research* (1990). For examples of Charmaz's approach we have included her work from *Good Days, Bad Days* (1991) and drawn comparisons against earlier empirical grounded theory work, *Time for Dying* (Glaser and Strauss, 1968). For examples of Clarke's work, we have drawn from her methodological and empirical article 'A social worlds research adventure: the case of reproductive science' (1997). These examples efficiently demonstrate how the authors thought their methodological suggestions might be made manifest. While this first section focuses on how the authors make their cases for what constitutes theory, the examples in later sections of the article illustrate and ground this discussion in how methodological approaches shape the research product.

It is our hope that researchers might use these tools to approach Adele Clarke's (2005) notion that, from its earliest days, grounded theory was 'always already' post-modern (2005: 19). Using this analysis to take up and blend the tools of each school

may help researchers to communicate effectively about grounded theory methodology rather than considering each school purely as mutually exclusive theory-methods packages.

Glaserian theory

Theory, according to Glaser, is not expressly descriptive. It is not ‘empirical description’ (Glaser, 1992: 14), ‘voluminous description’ (Glaser, 1978: 92), or ‘immaculate description’ (Glaser, 1978: 3). Situated descriptions of substantive areas, he argues do not ‘build and contribute on more general levels of the scientific enterprise, such as to a theory of becoming... [instead] pure description is situation specific’ (Glaser, 1992: 15). For Glaser, the purpose of theory is to do what description cannot do: transcend person, place, and time. It is, in short, to produce what sociologists call ‘formal theory.’ Formal theory is ‘theory developed for a formal or conceptual area of sociological inquiry’ (Glaser, 1978: 144). This oft-repeated definition circularly uses the term ‘formal’ in both the term and its explication. Attending to examples of formal theory provides more clarity:

We defined substantive theory as theory about a substantive area of inquiry – such as pain management, science careers, patient care and professional education. It is theory that fits the substantive area’s main problems and works in predicting outcomes in the area ... In contrast, a formal theory is a theory developed or discovered for a conceptual area of inquiry – such as status passage, social stratification, formal organization, or stigma. (Glaser, 1992: 99)

Glaser pursues sociological theory at its highest levels of abstraction. *The Discovery of Grounded Theory* (1967) was Glaser’s effort to write a manual for how to create theories that persist at the highest levels of academia and popular culture. For Glaser, ‘good ideas are one good test of the theory. They last, people cannot resist using them. They cannot forget them: for example who can forget “looking glass self,” “generalized other,” and “anticipatory socialization” ... Good ideas contribute the most to the science of sociology. Findings are soon forgotten, but not ideas’ (Glaser, 1978: 8). Some suggest grounded theory’s legacy is its failure to create ideas at the level of abstraction it purports to seek (Timmermans and Tavory, 2012). Nevertheless, Glaser’s conception of the purpose of theory remains creating ideas at this level of abstraction. A grounded theorist’s work is to continually ‘transcend preceding theories’ by ‘integrat[ing] them into a broader theory’ with a ‘process of greater scope and higher conceptual level’ (Glaser, 1978: 15). His mission – and, he implies, the mission of the social sciences in general – should be to create, brick-by-brick, a complete structural representation of human interaction (Glaser, 1999).

Grounded theory, Glaser writes, ‘provides a bridge to seeing the same problems and processes in other areas’ (Glaser, 1992: 15). While the work of grounded theory may be specific – ‘generating concepts and their relationships that explain, account for and interpret the variation in behavior in substantive areas under study’ (Glaser, 1992: 19) – its true purpose is general. The yield of a grounded theory is ‘just hypotheses!’ (Glaser, 1992: 16, emphasis in original) about how people in a situation behave to process

problems they encounter. But those hypotheses should be general and abstract enough to transcend the context in which they were discovered. They should, therefore, represent permanent characteristics of human social behaviour and thinking.

Straussian theory

For Strauss, the complexity of a theory trumps its level of abstraction. Strauss introduced the term complexity to the methodological literature on grounded theory in 1987 (Strauss, 1987). While it may seem innocuous, introducing the term altered how Strauss, and those who followed him, represented the purpose of theory-making. Complexity has become a term used by philosophers of science as a shorthand for the impossibility of discovering linear cause and effect relationships, for a constitutive ‘unpredictability and unreliability that doesn’t yield to human understanding’ (Mitchell, 2009: 11). Strauss wrote as if the purpose of grounded theory must be reconfigured because social phenomena are so complex that generating single explanatory concepts that transcends all context is impossible. For Strauss, this ‘is, of course, an old problem: abstraction (theory) inevitably simplifies, yet to comprehend deeply, to order, some degree of abstraction is necessary. How to keep a balance between distortion and conceptualization?’ he asked (Strauss, 1993: 12, brackets in original). Strauss tried to fill the methodological gap of his contemporaries, ‘researchers working in various research traditions [who] describe or analyse the phenomena they study in relatively uncomplex terms, having given up on the possibility of ordering the “buzzing, blooming confusion” of experience except for ignoring “for a time” its complexity. Their assumption apparently [being] that later generations will build on their current endeavors’ (Strauss, 1987: 6–7). Both he and Glaser based their methodological approaches on the assumption that approaching the social using grounded theory tries to ‘fit the realities under study in the eyes of their subject, practitioners and researchers in the area’ (Glaser, 1992: 14, emphasis added) and that ‘*analysis* is synonymous with *interpretation* of data’ (Strauss, 1987: 4, emphasis in original). But where Glaser held up a postwar push toward reductive and predictive sociology, Strauss flirted with a new era of social scientists who purposively acknowledged the constructed nature of both perception and research.

Strauss’s emphasis on complexity coaxed the definition of theory toward broader interpretations in the work of others. Rather than focusing purely on formal theory, Strauss wrote that ‘depending on the purposes of the investigator, the final conclusions drawn in the course of the research can vary greatly by level of abstraction’ (Strauss, 1987: 4). While Glaser considers this kind of research to be a-theoretical, low level ‘narrative description ... [of] a central phenomenon around which all other categories are integrated’ (Glaser, 1992: 76), Strauss explicitly proposes that description can be ‘complex, systematic, and interpretive’, and even that ‘theory can be descriptive’ (Strauss, 1987: 4). Strauss primarily values, then, the pursuit of ‘effective ... [and] conceptually dense’ theory (Strauss, 1987: 1) that meets the intended ends of the researchers creating it. Rather than insisting that only formal theory counts as theory, Strauss’s conceptualization of theory allows for a kind of analytic description that generations of grounded theorists have come to rely on (Clarke, 2008).

Charmazian theory

Charmaz takes a new position on the role of abstraction and description in theory by redefining how a grounded theory accounts for exceptions. She orients her theory-producing efforts away from Strauss's desire to create dense theory and Glaser's insistence on formally abstracted theory. For Charmaz, 'early grounded theory works stress discovering and analyzing *a* basic social process' (Charmaz, 2006: 173, emphasis in original). She partially sidesteps the issue of Glaser and Strauss's creating what amount to universal norms of interaction by declining to microscopically account for the exceptions to her theoretical frameworks. For both Glaser and Strauss, a significant amount of fieldwork is devoted to the theorist finding the exceptions to any category of behaviour they've created (Glaser, 1978; Strauss, 1987). Exceptions to or variations of the category are brought into the emerging theory as properties (Glaser, 1978) or dimensions (Strauss, 1987). In their manuscripts, paragraph after paragraph are devoted to addressing each exception and explaining what social processes precipitate the exception (Glaser and Strauss, 1968, 1971; Strauss et al., 1985).

Charmaz's version of theory works differently. Charmaz transfers the burden of rigor from exacting explications of exceptions to authentic representations of the words, actions, and stories – the marginalized voices – of her participants (Charmaz, 2008). Grounded theory can be used to 'reveal links between concrete experiences of suffering and social structure, culture, and social practices or policies' (Charmaz, 2011: 362). Theory, for Charmaz, is more salient when conceived as the active process of theorizing, of making an 'argument' about the world (Charmaz, 2006: 128). Glaser interprets Charmaz's turn toward describing and reorganizing the viewpoints of her participants as an obsession with accuracy that misunderstands the irrelevance of accuracy to grounded theory (Glaser, 2002). To Charmaz, however, the product carries with it a more pronounced sense of action, of the participants speaking through the researcher to the reader (Charmaz, 2006). Here, a theory becomes less minutely preoccupied with justifying to the reader how an abstract process applies to all people at all times minus some exceptions. Instead, the purpose of the theory is to fracture and re-organize the 'strands of the stor(ies)' (Charmaz, 1991: 7) of participants and give the reader the sense that the categories constructed by the researcher would be meaningful to the participants themselves.

Charmaz's *Good Days, Bad Days* (1991) serves as a microcosm of this subtle but important change. The first two sections of *Days* resembles the constructivist grounded theory methodological approach that Charmaz later coined (Charmaz, 2003, 2006) while the third section, written 18 years earlier, more identifiably resembles the empirical work of her doctoral supervisors (Glaser and Strauss, 1965, 1968). In the first two sections, the categories are named using gerunds, participants are quoted more liberally and more often than in Glaser and Strauss's work, and the voices of the researcher and participants are blended thoroughly. In contrast, the third section focuses on a single basic social process, 'living one day at a time' (Charmaz, 1991: 178). It lists and explains the properties of the categories, 'temporal incongruence' (1991: 171) and 'illness as timemarker' (1991: 198) for example, and, most importantly, it takes account of exceptions in the form of 'contrast(ing)' cases (1991: 177). When taking up the methodology in her own right

years later, Charmaz contrasts the abstractions of ‘explicit theory’ with more ‘useful analytical frameworks’ (Charmaz, 2014: xv) that free up room for descriptive ethnographic, narrative, and biographical work by not prioritizing exceptions to her telling.

Clarkeian theory

Adele Clarke studied under Anselm Strauss at UCSF along with Kathy Charmaz. When he retired, Clarke inherited his university appointment and extended his methodological concerns (Strauss and Corbin, 1997). Clarke used Strauss’s marginal inclusion of social worlds/arena as a tool to extend Charmaz’s minimization of the importance of exceptions. The social worlds/arenas theory posits that *differences* of interpretation are the most basic aspect of social processes, *not abstract similarities* (Clarke, 1997).

Like Charmaz, Clarke minimizes accounting for exceptions in the production of theory. Strauss, for decades, held that the grounded theory method would lead two researchers to develop the same theory if they observed exactly the same events during the data collection process (Strauss, 1994). There were, however, hints that he believed categories to be ‘created’ (Strauss, 1987: 17) and, later, that ‘theory does not just “emerge” from data; rather data is itself constructed ... and interpreted’ (Strauss and Corbin, 1997: 64). Strauss did not engage at length with this new perception of the role of theory, and he persisted in developing theoretical works that presented a single social process regardless of context. But he did begin to use a theoretical lens that indicated a growing concern, not with identifying and controlling isolated exceptions to a theory but rather one that takes exceptions and difference to be the guiding principle of the methodological process. In 1987, Strauss started to use the social worlds/arenas theory, and Clarke later put the theory at the core of her methodology (Clarke, 1997, 2005). Depicting social world/arenas as an inherent tool for theory-making means that constructing theory is no longer about drawing a single process across multiple contexts. Instead, by *describing* the interpretations of objects, processes, situations, and the social commitments that people have to them, social worlds/arenas-focused theory production makes the assumption of difference and exception the core principle upon which a theory is built (Clarke, 1990).

Clarke selects the notion of description out of Strauss’s work. While ‘Strauss [only] nodded to the ever-widening path ... [toward grounded theorists becoming] scientific describers’ (Kearney, 2007: 133), Clarke strode fully down it. For Clarke, the purpose of theory is to ‘draw attention to certain aspects of social life ... [and] to particular actors and their activities’ (Clarke, 1997: 84–85). She uses the description of difference as a fundamental principle for her theory building process.

Clarke asserts that the core activity of a social world shifts over time and can be read and experienced differently. In her article ‘The case of reproductive science’ (Clarke, 1997), Clarke pivots an analysis of the ‘core activity’ in a social world around the differences that she herself *experienced* during the research process. For example, the core activity – the foundational means of establishing legitimacy – in the reproductive sciences before WWII shifted from linking one’s work with animal research to linking it with endocrinology (Clarke, 1997). The social process of establishing legitimacy emerges from Clarke’s study as a product of grounded theory analysis, but, most importantly, that

notion of a single process sits in the background of her work. Instead, she emphasizes the people who do the work, where they come from, how they speak and write about themselves, and how she experienced them as a researcher.

Clarke embeds efforts to expand Strauss's concern with 'reveal[ing] types of work not previously viewed as work per se, hidden work ... and the negotiation of the actual division of labor (rather than, for example, professional claims-making about it)' (Clarke, 1997: 72, brackets in original) directly into her methodological premise. By forcing theory-building to 'keep track over time not only of what *is* being done in a line of work but also what *isn't*' (Clarke, 1997: 85), Clarke orients the theory building process toward identifying silenced aspects of work. Clarke's descriptions of social situations intentionally endeavor to describe things, people, and kinds of work that are not commonly acknowledged.

Summary

We have attempted to describe the changing nature of *theory* in grounded theory. The methodological edicts of early grounded theory must be considered not as permanent rules about the nature of grounded theory research but rather epistemological performances for a specific time and place that have subsequently shaped the perception of their analytic tools. What started with a single explanatory concept has become a complex and dense descriptive framework. This shift has significant implications for what kind of data grounded theorists collect and how it is analyzed.

Methodological implications

The codes a researcher applies to the data shape what data is collected and how it is collected. For Saldana, coding is the "critical link" between data collection and their explanation of meaning' (Saldana, 2012: 3). The more value a grounded theory school places on description in its product, the less it places on detailed accounting for exceptions in its coding process. For example, in the original conception of grounded theory, coding is designed to record 'the full range of types or continua of the categories, its dimensions, the conditions under which it is pronounced or minimized, its major consequences, its relation to other categories, and its other properties' (Glaser and Strauss, 1967: 106). Using a coding strategy capable of capturing this elaborate series of variables requires a similarly elaborate system of data collection.

The coding strategy therefore shapes the product of the research toward description or toward abstract theory. The coding, in a way, fences in the analysis. Though it is rarely acknowledged in the methodological literature, grounded theorists from across the four schools code differently (Urquhart, 2013). The most explicit delineation of which codes are which comes from Glaser's (1978) 'coding families.' Glaser distinguishes between process codes (ex. stages, phases), strategy codes (ex. tactics, manouevrings), causal codes (ex. amplifying loops), and descriptive codes (Glaser, 1978, 1992; Urquhart, 2013). Grounded theorists across the four schools favor some of these families over others because they require different material to build the different kinds of theories they aspire to.

Glaserian coding

Glaserian grounded theory strives for parsimony in the coding of data and creation of categories. A grounded theorist of other schools may code aspects in a single incident of a maître d'hôtel's work flow as 'watching,' 'information passing,' 'attentiveness,' 'unintrusiveness,' 'monitoring quality,' 'providing assistance,' 'information gathering,' and many others (Strauss and Corbin, 1990). For Glaserian grounded theory, a more tentative coding and memoing process repeats as the researcher returns to the data collection. Multiple attempts are made at creating a single category that sticks, that has grab, and that can be used to explain the observed behavior while keeping a close eye on exceptions to the category (Glaser, 1992). Glaser's version of the iterative process relies on the presumption of what he calls emergence. Emergence is the notion that enough iterations of comparison can lead to the construction of a core category that is broadly explanatory and under which almost all observed behaviors and reports fall (Glaser, 1978). For Glaser, 'labeling each incident' within an incident (Glaser, 1992: 42) leads to burdensome analysis. Glaserian coding is, instead, 'halfway between labeling each incident and conceptualizing many incidents' (Glaser, 1992: 42). For example, according to Glaser, the maître d'hôtel may simply have been 'cultivating relationships' with staff or clients (Glaser, 1992).

Glaser's approach to coding is the most multifaceted of the four schools despite his affinity for parsimony. In *Theoretical Sensitivity*, Glaser presents 18 coding families (Glaser, 1978). In 2005, he suggested 23 more (Urquhart, 2013). Glaser's coding families cover vast swaths of social interaction and the factors that influence it. He suggests that one or more of the coding families may 'naturally emerge [during the research process] when it is relevant to the substantive area under study' (Glaser, 1992: 91, emphasis in original). But he also, and perhaps more importantly in our contemporary postmodern context, suggests that each of these coding families will call out to different researchers depending on their 'disciplinary perspectives' and personal interests (Glaser, 1992).

Glaser's flexibility in coding families has downstream methodological implications for the identification of exceptions. Glaserian grounded theory research collects data through field observations and 'passive non structured interviewing or listening' (Glaser, 2002: 3). 'Events and...happenings' (Glaser, 1978: 2) are observed, concepts are created to describe them, concepts are turned into categories by comparing the observed concepts with other concepts. Categories are discovered through 'preconscious processing' (Glaser, 1992: 18) that identifies when concepts are comparable; that is, when they involve behaviors or reports in interviews that appear to be similar to the researcher. When new concepts are encountered and fall within an existing category their exceptions and their granular differences with other concepts in the category are recorded as properties (Glaser, 1978). Properties thus describe the way in which concepts are different but related. In short, Glaserian properties are built for tracking exceptions to concepts as the theory emerges. This elaborate mode of accounting for exceptions well serves Glaser's purpose of developing formal theory.

Straussian coding

Strauss is interested in exceptions to his categories in a different way. To achieve the kind of density Strauss favors, he narrows the scope of applicable coding families and

deepens the tenacity and meticulousness with which the researcher searches for exceptions. Strauss argues for the importance of what he calls a ‘coding paradigm’ (Strauss, 1987: 27). His insistence on using specific kinds of codes is so strong that he maintains ‘without the inclusion of the paradigm items, coding is not actually coding’ (Strauss, 1987: 28).

Strauss’s coding paradigm adapts the ‘6 Cs’ coding family (causes, contexts, contingencies, consequences, covariances, and conditions) (Glaser, 1978: 74) and the ‘strategies’ coding family (Glaser, 1978: 76) into a single unit composed of: causal conditions, context, intervening conditions, action/interaction strategies, and consequences (Strauss, 1987; Strauss and Corbin, 1990; Urquhart, 2013). Despite this apparent simplification, Strauss’s coding paradigm tend to densify the analysis. According to Glaser, ‘density is the amount of properties of a category’ (Glaser, 1992: 71). Focusing in on five types of codes forces the analyst to attend to socioculturally dense “‘further away” (or, as some social scientists say, *macroscopic* or *structural*)” (Strauss, 1987: 78, brackets in original) aspects of the data that are otherwise easy to ignore. To apply Strauss’s coding paradigm, in what he calls ‘axial coding’ the analyst conducts ‘intense analysis done around one category at a time, in terms of the paradigm items’ (Strauss, 1987: 32). For each category, Straussian grounded theory explores the conditions in which it exists, the consequences which might have stayed silent, and, ultimately, its granular properties and exceptions. For Glaser, this forcing around only two coding families leads to Strauss’s problematic ‘fantasmagora of rules and dictums’ (Glaser, 1992: 86) producing a ‘tyranny of endless questions’ (Glaser, 1992: 54) and ‘hundreds of conceptual labels ... [without] knowing which are relevant’ (Glaser, 1992: 42). We suggest an alternative reading: the coding families Strauss prefers are useful for producing a different but equally valid type of theory.

While grounded theory analysis for Glaser is an almost completely inductive process, for Strauss it is more complicated. Rather than trusting purely in emergence and induction, Strauss’s version of analysis requires that ‘induction, deduction, and verification ... enter into inquiry’ (Strauss, 1987: 12). While Glaser talks almost universally about the ‘joy’ and the ‘high’ of discovering a core category, Strauss qualifies that joy with attention to the ‘constraints and challenges of the research settings’ (Strauss, 1987: 7) when analysing grounded theory’s “‘discovered” (created) concepts’ (Strauss, 1987: 17, brackets in original). These qualifying statements, and the notion of ‘created’ categories, expose the gap between the method’s two founders’ understandings of the analytic process.

A Straussian analyst must temper the discovery of a category with questions that destabilize the category, deliberately seek out exceptions, and lead to conceptually equal but unheard or silenced areas of the data. The emergence of a core category indicates ‘parsimonious’ (Glaser, 1978: 71) completion of the generative stages of the research for Glaser. For Strauss, the naming of a category initiates a series of important downstream interrogations, or what he calls ‘generative questions’ (Strauss, 1987: 22). In Glaserian analysis, the next stage of the research process would begin identifying the properties of the category by comparing it to other categories and concepts. Strauss presses further. He suggests that exceptions to categories identified deductively “‘in imagination” or through experiential data’ (Strauss, 1987: 16) should be explored by ‘dimensionalizing’ (Strauss, 1987: 21) by asking what different exceptions might exist.

The coding paradigm introduces a fundamental change to the way data should be collected and analyzed. Rather than allowing the codes and their exceptions to passively emerge from the data, Strauss understands the coding process as a way of ‘forc[ing] [the researcher] into confronting’ (Strauss, 1987: 25) concepts ‘in imagination’ or those implicit in the data through ‘microanalysis’ (Corbin and Strauss, 2008: 46).

These questions probe into areas that participants in the setting may not mention are important to them but that the researcher must find to achieve the level of conceptual density Strauss desires. Techniques such as the ‘flip flop’ (Corbin and Strauss, 2008: 79) or the ‘far out’ comparison (Strauss, 1987: 57), which Glaser vehemently criticizes (Glaser, 1992), are methods of creating categories during the coding process that are not explicitly in the data at hand. This ‘category creation’ forces the analyst to consider cases that the present categories suggest should be in the data but have not been observed and to bring them into the theory through what Strauss calls verification (Strauss, 1987). Dense theory works to capture complexity of social phenomena by forcing the researcher to ask questions of the data that the researcher may not have immediately considered, or, as Glaser would say, that may not have emerged from the data.

Charmazian coding

Charmaz makes two methodological choices that distinguish her version of grounded theory from Glaser’s and Strauss’s. Her first choice is to amplify the importance of gerund-based process coding, and her second is to de-emphasize the importance of single core categories. Charmaz does not highlight explicitly for the reader how these changes affect the place of description and accounting for exceptions in her methodological approach, but we are arguing here that these two facets of grounded theory are where her changes have the most dramatic downstream effect. Charmaz’s use of gerunds – nouns that refer to an active state – focuses her coding within the process coding family, and infuses her theoretical products with a sense of continual social, behavioral, and psychosocial action. Both Glaser and Strauss state that capturing processes is a goal of grounded theory and imply that gerunds and the sense of action they convey during coding is a useful way of performing coding. But they do not state that it is a primary method of coding (Glaser, 1992). Charmaz does. For Charmaz, codes begin with gerunds.

Relying primarily on gerunds for coding has a dramatic effect on what is included during the coding process. Coding balances abstraction and description (Strauss, 1987). For instance, Strauss would code a section of an interview where an aggrieved nurse describes leaving a patient’s room because he is yelling as ‘professional composure’ rather than ‘expressing grief’ (Strauss, 1987: 29–30). For Strauss using the latter gerund-based code would be to ‘remain totally or mostly at a descriptive level’ (Strauss, 1987: 29). Indeed, there is a fundamental difference between these codes. Professional composure is both a noun and a sociological concept, and, more importantly, it does not attend to the complex interplay between researcher and researched. By choosing to code using gerunds, Charmaz turns an exercise in categorization into an interpretation of social performance.

Charmaz’s choice to code using gerunds positions her to ‘define implicit meaning and actions’ in the social performances of everyday life (Charmaz, 2014: 124). Gerunds imply that any utterance or behavior is part of a larger web of ‘assumptions, implicit

meanings, and tacit rules' (Charmaz, 2014: 95) because gerunds do *work*. When the nurse in this example states in the interview that she is aggrieved, rather than coding immediately at the conceptual level (such as 'professional composure') the Charmazian grounded theorist chooses a code that inherently implies that the interviewee is doing work on the interviewer. The verb 'expressing' does not assume that the interviewee is aggrieved in an uncomplicated way. Instead, it assumes that the interviewee's story and the way it was told, either deliberately or in 'unspoken and taken for granted' ways (Charmaz, 2014: 99), meant to convey some meaning to the researcher or, in a way, to perform a story (McCreaddie and Payne, 2010).

Relying on gerund-based coding, then, has major implications for Charmazian grounded theory. Gerunds move theory toward description. Gerund-based coding 'sticks closely to the data' (Charmaz, 2014: 112), describing what is occurring. Gerunds turn the eye of theory toward performativity and insist on the relevance of culture to behaviour, identity, and interaction. If every utterance is doing social work, then our most basic form of data is constructed at the social level. It remains impossible to strip away the performative aspect of social life, to *capture* a research participants' 'true' or 'authentic' self with all its many exceptions; instead, the Charmazian grounded theorist is left with carefully describing the kinds of stories people tell us and identifying the links between them. By attempting to faithfully collate and descriptively represent the voice of participants, 'coding [in Charmazian grounded theory] should inspire us to examine hidden assumptions in *our* use of language as well as that of our participants' (Charmaz, 2014: 114–115, emphasis in original). For Charmaz (2006), 'research and writing are inherently ideological activities' (2006: 163). Coding using gerunds emphasises the implicit social work performed by these ideologies for both researcher and researched.

A second feature of Charmazian grounded theory distinguishes her methodologically from Glaser and Strauss. Charmaz's de-emphasizing the importance of the single core category fundamentally changes the meaning of the 'basic social process' in Charmazian grounded theory. Glaser's and Strauss's approach to abstract basic social process requires that they track exceptions to the process and its categories to retain the impression of rigorous trustworthiness, to 'make the data objective' (Glaser, 2002: 4), and to use microscopic discussions of exceptions to help their categories transcend the complexity of the substantive area in which they were created. Admittedly, Charmaz chooses to use a single core category, 'living one day at a time,' in her seminal monograph (Charmaz, 1991). However, she also deliberately degrades the utility and necessity of the core categories. Her core category is not sociological: it does not come from the list of theoretical codes that either Glaser or Strauss present as sociological concepts at a sufficient level of abstraction (Glaser, 1978; Strauss, 1987). Charmaz states that she had trouble finding the core category, and that ultimately she felt 'collapsing multiple different processes into one [category] would be over-simplifying' (Charmaz, 2014: 247). Charmaz's approach to grounded theory remains a 'realist' project about finding basic social processes (Charmaz, 2003: 271), but for Glaser and Strauss, finding single core categories *was how* one discovered basic social processes. The two phrases were synonymous. Charmaz's understanding of basic social process is different. For her, a basic social process can be a descriptive narrative form in which her argument, her 'interpretive rendering' (Charmaz, 2014: 276) of the world, sits (Charmaz, 1991).

Clarkeian coding

Clarke's approach to basic social processes and their exceptions follows the same descriptive tendency Strauss and Charmaz espoused in earlier decades. Clarke extends their focus by using descriptions of difference as the cornerstone of her methodological approach. Clarkeian grounded theory is primarily a 'supplemental' (Clarke, 2005: xxx-vii) method of analyzing previously created codes. But because in Clarkeian grounded theory, as in all grounded theory, coding informs subsequent stages of data collection it cannot be considered only as a method of post-hoc analysis. Clarke states that coding in situational analysis is done in the 'traditional' grounded theory method, primarily basing her citation on Straussian grounded theory (Clarke, 2005). Clarke takes these codes, adds a second type of initial coding family – the 'frames' or 'sociocultural discourses' coding family (Urquhart, 2013: 27) – and subjects them to a sophisticated and rigorous level of secondary analysis.

Exceptions to a category are not only assumed in Clarkiean grounded theory but are basic to the approach itself. According to Clarke, she moves away from 'Western scientific universalizing master narratives "explaining variation" [and moves toward] creating representations that basically assume differences and multiplicities and to seek to explicitly map and represent them' (Clarke, 2005: 19). In Clarkeian grounded theory, the pursuit of difference comes from an analysis of codes in service to three types of maps: situational maps, social worlds/arenas maps, and positional maps. Each of these maps constitute one of the missions of Clarke's reformed understanding of the purpose of theory: the description of difference and hidden work. A single and central area of commonality underlies all three. Where Charmaz forgoes attempts to account for properties and exceptions to her categories, Clarke relies exactly on the presence of exceptions to create her representations of a situation. For Clarke, identifying a few properties of the context which might influence the participants' behaviours in the situation is ineffectual: '*The conditions of the situation are in the situation*. There is no such thing as context' (Clarke, 2005: 71, emphasis in original). Therefore, rather than using a depiction of a single behavior or two to explain how a problem is encountered, Clarke focuses explicitly on identifying as many sources of difference as possible.

Clarke's maps enact her broader methodological strategy. The first maps, situational maps, are 'strategies for articulating the elements in the situation and examining relationships between them' (Clarke, 2005: 86). Situational maps identify and chart the most important human, nonhuman, discursive, and symbolic elements of a situation (Clarke, 2005). The situational maps are, in essence, descriptive. They are a product of a reframed analytic 'forcing' that pushes the analyst toward looking for the unseen elements of the situation. While Strauss also used spatially-oriented techniques for identifying elements of the theory that lay outside the initial impressions of the researcher (Strauss, 1987), his efforts were devoted to finding potentially unseen behaviors or forms of work to be brought directly into the core category. Clarke, on the other hand, uses coding and situational map-making for diversification. Finding the nonhuman, discursive, and symbolic elements of a situation is an attempt to broadly describe what is going on in the situation and to force the researcher to look outside the immediate and the singularly human elements in it.

The second two maps, social worlds/arenas and positional maps, both hold an interpretive assumption about social processes at their core. Producing these maps inherently requires that the analyst break from reiterating social power structures. The analyst must focus on stripping the positions in a debate from the people who hold them. By focusing only on describing the positions themselves, and removing questions of hierarchy and the implied value of the positions, positional mapping uses description to create room for the reinterpretation of traditional power structures. For Glaser, 'descriptive sociology may contribute to myth-breaking, to expose and to help the unknowledgable to know and understand a little, but it helps people in the know very little' (Glaser, 1978: 13). Yet it is exactly this kind of myth-breaking that Clarke seeks to achieve. Social worlds/arenas are 'cartographies of collective commitments, relations, and sites of action' (Clarke, 2005: 86). They are based on the symbolic interactionist notion that 'the social' cannot be authentically considered in aggregate but should instead consider in smaller, more particular, and more situated units (Clarke, 2005). Similarly, positional maps are 'simplification strategies for plotting positions articulated and not articulated' (2005: 86). Positional maps are a new strategy on an old problem: how can we make potentially valid but silenced positions heard? Positional mapping identifies the relevant major positions taken by actors as articulated in the data *on their own terms* (Clarke, 2005: 126). Clarke suggests that without this explicit attention to difference, grounded theories from other schools hide power from public view.

Summary

We have attempted to show how a move toward description-as-theory resulted in changing attitudes toward exceptions to categories in grounded theory. This move tacitly used description as a tool to change the focus of grounded theory from primarily behavioural and abstract to primarily sociocultural and situated.

Final conclusions

A grounded theorist's interpretation of the purpose of theory shapes the methodological choices he or she makes. Writing for an audience that expects single basic social processes with easy-to-follow and parsimonious theoretical structure requires different methodological tools than writing for an audience that expects complex socioculturally and historically-detailed representations of a situation. So contemporary grounded theory finds itself in a double bind. If the goal of Glaserian and Straussian grounded theory is *only* formal theory – preferably a few words strung together – to describe what all people in a certain situation do, think, and feel, then it is reasonable to suggest that grounded theory is an inherently modernist project, an expert consolidating the experience and viewpoint of a generalized other. In this case, 'formal theories exacerbate the tension between our need to create rules of thumb to get things done and our postmodern awareness that the complexity of life can never fully be captured in any theory' (Kearney, 2007: 128). But it is just as reasonable to suggest that grounded theory's focus across all four schools on the interpretation of the researcher turns the grounded theorist into a weaver of narratives. Someone who splices and dices their story about a process with the experiences and

viewpoints of others. Across all four schools, grounded theory presents researchers with strategies to make bridges across gulfs of experience: bridges from those who have experience in a given situation to those who don't, and bridges for those who have experience in the situation to their prior selves before they were changed by that experience.

The authors of each of the four schools found themselves bound to write about methodology within the epistemological constraints of their disciplines and their sociocultural context. We hope that taking a precise account of four schools of grounded theory and the methodological choices privileged by each will allow grounded theorists to find more clarity about what kind of theory they aim to produce and how to get there. Understanding not only how the schools differ but also their fundamental similarities gives grounded theorists more opportunity to dip into the waters of each and to reconcile epistemological differences that once appeared irreconcilable.

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Note

1. That said, we have not included a full evolutionary taxonomy of grounded theory emanating from each school, as that work has been tackled adequately elsewhere (Allen, 2010; Heath and Cowley, 2004; Morse, 2009; Urquhart, 2013). Instead, what follows is an exhaustive exploration of how each author writes about their approach to theory and how to make it.

References

- Aldiabat KM and Navenec L (2011) Philosophical roots of classical grounded theory: its foundations in symbolic interactionism. *The Qualitative Report* 16(4): 1063–1080.
- Allen LM (2010) A critique of four grounded theory texts. *The Qualitative Report* 15(6): 1606–1620.
- Bryant A (2007) Introduction. In: Bryant A and Charmaz K (eds) *The SAGE Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, 1–28.
- Bryant A and Charmaz K (2007) Grounded theory in historical perspective: an epistemological account. In: Bryant A and Charmaz K (eds) *The SAGE Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, 31–57.
- Charmaz K (1991) *Good Days, Bad Days: The Self and Chronic Illness in Time*. New Brunswick, NJ: Rutgers University Press.
- Charmaz K (2003) Grounded theory: objectivist and constructivist methods. In: Denzin NK and Lincoln Y (eds) *Strategies of Qualitative Inquiry* (second edition). Thousand Oaks, CA: SAGE, 249–291.
- Charmaz K (2006) *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Thousand Oaks, CA: SAGE.
- Charmaz K (2008) Views from the margins: voices, silences, and suffering. *Qualitative Research in Psychology* 5(1): 7–18.
- Charmaz K (2011) Grounded theory methods in social justice research. In: Denzin N and Lincoln Y (eds) *The SAGE Handbook of Qualitative research* (fourth edition). Thousand Oaks, CA: SAGE, 359–380.
- Charmaz K (2014) *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis* (second edition). Thousand Oaks, CA: SAGE, 359–380.

- Chen HY and Boore JR (2009) Using a synthesised technique for grounded theory in nursing research. *Journal of Clinical Nursing* 18(16): 2251–2260.
- Clarke A (1990) Controversy and the development of reproductive sciences. *Social Problems* 37(1): 18–37.
- Clarke A (1997) A social worlds research adventure: the case of reproductive science. In: Strauss A and Corbin J (eds) *Grounded Theory in Practice*. Thousand Oaks, CA: SAGE, 63–94.
- Clarke A (2005) *Situational Analysis: Grounded Theory after the Postmodern Turn*. Thousand Oaks, CA: SAGE.
- Clarke A (2008) Sex/gender and race/ethnicity in the legacy of Anselm Strauss. *Studies in Symbolic Interaction* 32: 159–174.
- Corbin J and Strauss A (2008) *Basics of Qualitative Research: Grounded theory procedures and techniques* (third edition). Thousand Oaks, CA: SAGE.
- Crotty M (1998) *The Foundations of Social Research: Meaning and Perspective in the Research Process*. Thousand Oaks, CA: SAGE.
- de Gialdino IV (2009) Ontological and epistemological foundations of qualitative research. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* 10(2): Art. 30.
- Denzin NK (2007) Grounded theory and the politics of interpretation. In: Bryant A and Charmaz K (eds) *The SAGE Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, 454–472.
- Glaser BG (1978) *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*. Mill Valley, CA: Sociology Press.
- Glaser BG (1992) *Emergence vs Forcing: Basics of Grounded Theory Analysis*. Mill Valley, CA: Sociology Press.
- Glaser BG (1999) The future of grounded theory. *Qualitative Health Research* 9(6): 836–845.
- Glaser BG (2002) Constructivist grounded theory? *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* 3(3).
- Glaser BG (2007) Doing formal theory. In: Bryant A and Charmaz K (eds) *The SAGE Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, 97–113.
- Glaser BG and Holton J (2007). Remodeling grounded theory. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 4(2).
- Glaser BG and Strauss A (1965) Temporal aspects of dying as a non-scheduled status passage. *American Journal of Sociology* 71(3): 48–59.
- Glaser BG and Strauss A (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New Brunswick, NJ: Aldine Transaction.
- Glaser BG and Strauss A (1968) *Time for Dying*. Chicago: Aldine Transaction.
- Glaser BG and Strauss A (1971) *Status Passage*. Chicago: Aldine Transaction.
- Greckhamer T and Koro-Ljungberg M (2005) The erosion of a method: examples from grounded theory. *International Journal of Qualitative Studies in Education* 18(6): 729–750.
- Heath H and Cowley S (2004) Developing a grounded theory approach: a comparison of Glaser and Strauss. *International Journal of Nursing Studies* 41(2): 141–150.
- Kearney MH (2007) From the sublime to the meticulous: the continuing evolution of grounded formal theory. In Bryant A and Charmaz K (eds) *The SAGE Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, 127–150.
- McCreaddie M and Payne S (2010) Evolving grounded theory methodology: towards a discursive approach. *International Journal of Nursing Studies* 47(6): 781–793.
- Melia KM (1996) Rediscovering Glaser. *Qualitative Health Research* 6(3): 368–378.
- Mitchell SD (2009) *Unsimple Truths: Science, complexity, and policy*. Chicago, IL: University of Chicago Press.
- Morse JM (2009) Tussles, tensions, and resolutions. In: Morse JM, Stern PN, Corbin J, Bowers B, Charmaz K and Clarke A (eds) *Developing Grounded Theory: The Second Generation*. Walnut Creek, CA: Left Coast Press, 13–22.

- Saldaña J (2012) *The Coding Manual for Qualitative Researchers*. Thousand Oaks, CA: SAGE.
- Stern PN (1980) Grounded theory methodology: its uses and processes. *Image* 12(1): 20–23.
- Strauss A (1987) *Qualitative Analysis for Social Scientists*. Cambridge: Cambridge University Press.
- Strauss A (1993) *Continual Permutations of Action*. Piscataway, NJ: Transaction Publishers.
- Strauss A (1994) Awareness contexts and grounded formal theory. In: Glaser BG (ed.) *More Grounded Theory Methodology: A Reader*. Mill Valley, CA: Sociology Press, 360.
- Strauss A and Corbin J (1990) *Basics of Qualitative Research* (first edition). Thousand Oaks, CA: SAGE.
- Strauss A and Corbin J (1997) *Grounded Theory in Practice*. Thousand Oaks, CA: SAGE.
- Strauss A, Fagerhaugh S, Suczek B and Wiener C (1985) *Social Organization of Medical Work*. Chicago: University of Chicago Press.
- Timmermans S and Tavory I (2012) Theory construction in qualitative research: from grounded theory to abductive analysis. *Sociological Theory* 30(3): 167–186.
- Urquhart C (2013) *Grounded Theory for Qualitative Research: A Practical Guide*. Thousand Oaks, CA: SAGE.

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