ACHIEVING RIGOR IN QUALITATIVE ANALYSIS: THE ROLE OF ACTIVE CATEGORIZATION IN THEORY BUILDING

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Scholars have long debated how rigor can be achieved in qualitative analysis. To answer this question, we need to better understand how theory is generated from data. Qualitative analysis is, at its core, a categorization process. Nevertheless, despite a surge of interest in categorization within the social sciences, insights from categorization theory have not yet been applied to our understanding of qualitative analysis. Drawing from categorization theory, we argue that the movement from data to theory is an active process in which researchers choose between multiple moves that help them to make sense of their data. In addition, we develop a framework of the main moves that people use when they categorize data and demonstrate that evidence of these moves can also be found in past qualitative scholarship. Our framework emphasizes that, if we are not sufficiently reflexive and explicit about the active analytical processes that generate theoretical insights, we cannot be transparent and, thus, rigorous about how we analyze data. We discuss the implications of our framework for increasing rigor in qualitative analysis, for actively constructing categories from data, and for spurring more methodological plurality within qualitative theory building.

Qualitative analysis is a central tool for developing new theory (Edmondson & McManus, 2007; Eisenhardt, 1989). In recent years, there has been a call for increasing the rigor of qualitative research (Lamont & White, 2008; Lubet, 2017; Pratt, Kaplan, & Whittington, 2020; Small, 2013). This debate on rigor has led some organizational scholars to ask, more specifically, "How can inductive researchers apply systematic conceptual and analytical discipline that leads to credible interpretations of data and also helps to convince readers that the conclusions are plausible and defensible?" (Gioia, Corley, & Hamilton, 2013: 15). Scholars often assess rigor in qualitative research by examining qualitative analysts' descriptions of how they moved from data to theory (Bansal & Corley, 2011). To demonstrate

rigor, then, qualitative scholars need to detail more effectively "the actual strategies used for collecting, coding, analyzing, and presenting data when generating theory" (Glaser & Strauss, 1967: 244). When conducting qualitative analysis, we identify categories in our data. These categories are generally labeled "codes" or groupings of codes, such as the first- and second-order codes and overarching categories described in classical grounded theory (Strauss & Corbin, 1990). These categories generate the concepts and mechanisms that form the foundation for theory building (Eisenhardt, 1989; Yin, 2003).

Given the centrality of categorization to qualitative analysis, it is surprising that we have not yet drawn more purposely on categorization theory to penetrate the challenges faced by qualitative scholars. A longstanding and vibrant line of inquiry among psychologists, sociologists, and management scholars has focused on understanding how humans construct and categorize the components of their world (Bingham & Kahl, 2013; Bloom, 2000; Khaire & Wadhwani, 2010; Lamont & Molnar, 2002; Murphy &
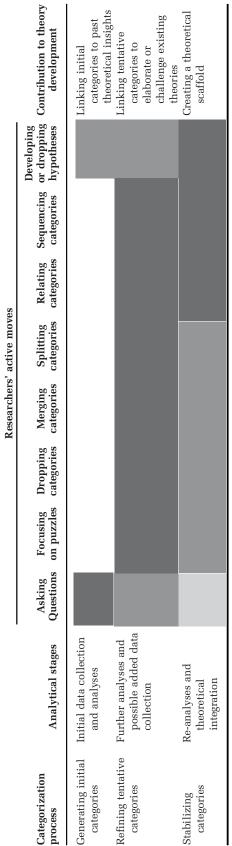
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Lassaline, 1997; Rosch, 1978; Vergne & Wry, 2014). Categorization is the process through which individuals group elements together to generate an understanding of their world (Bowker & Star, 2000). Importantly, individuals have been shown to actively construct categories based on the existing knowledge and the intentions they bring to the categorization process (Berger & Luckmann, 1967; Searle & Willis, 1995). Yet, often this active categorization process is not evident in how qualitative researchers report their research, which makes it difficult for readers to assess the researchers' analytical process. Instead, many qualitative researchers draw on seemingly proven templates when describing their work even though the structure of these templates might be a far cry from the researchers' actual analytical process.

Bringing categorization theory into the debate on how qualitative scholars achieve rigor allows us to reflect on the active role that we as researchers play in the construction of the categories critical to theory building. Such reflexivity allows us to articulate exactly what we did so that others can better understand how we moved from data to theory. Oftentimes, "we do not really know how the researcher got from 1,000 pages of field notes and transcriptions to the final conclusions, as sprinkled with vivid illustrations as they may be" (Miles, Huberman, & Saldaña, 2014: 5). This is problematic for all scholars trying to evaluate the results of such pursuits, but even more so for junior scholars, who look to and try to learn from published pieces for guidance on how to generate theoretical insights. The current lack of reflexivity also stands in the way of theory development by limiting the repertoire into which scholars tap when analyzing data and by artificially constraining the pathways that newcomers drawing upon qualitative data believe they can pursue.

In this article, we integrate insights from both categorization theory and existing scholarship on qualitative analysis to develop a framework emphasizing the researchers' active role in theory building. The framework includes the main analytical moves upon which scholars might rely to sift through their data and serves as an invitation for them to both be more reflexive and more transparent about their analytical processes. Table 1 provides an overview of this framework.

We define "moves" as the micro-processes that researchers undertake during qualitative theory building. By integrating categorization theory with insights from existing but at times neglected qualitative scholarship, we identify specific moves. In other

TABLE 1
An Active Categorization Framework for Theory Development

Categorization process	Analytical stages	Researchers' active moves								Contribution to theory development
		Asking Questions	Focusing on puzzles	Dropping categories	Merging categories	Splitting categories	Relating categories	Sequencing categories	Developing or dropping hypotheses	
Generating initial categories	Initial data collection and analyses									Linking initial categories to past theoretical insights
Refining tentative categories	Further analyses and possible added data collection									Linking tentative categories to elaborate or challenge existing theories
Stabilizing categories	Re-analyses and theoretical integration									Creating a theoretical scaffold

Note: Within the table, the darker the shading, the more attention is paid to that particular move during a given analytical stage.

words, while evidence of corresponding analytical strategies exists within qualitative scholarship, these moves have not, as such, been explicated. Specifically, we highlight eight main moves—(1) asking questions, (2) focusing on puzzles, (3) dropping categories, (4) merging categories, (5) splitting categories, (6) relating or contrasting categories, (7) sequencing categories, and (8) developing or dropping working hypotheses—that can provide analytical scaffolding to facilitate the often-daunting task of analyzing qualitative data and crafting theoretical contributions. Table 2 provides an overview of each move,

including a definition of it and examples of how it has been applied in qualitative data analysis.

Ultimately, we suggest that researchers can demonstrate rigor by detailing more precisely how they have purposefully drawn on a broad and diverse set of moves to engage with their data. This approach advocates that we are more candid and explicit about both the goals and the process driving theory development. Moreover, we argue that different moves can be used to generate insights during different phases of the research process and that no one template should be reified as the true way to achieve

TABLE 2
An Overview of Eight Possible Analytical Moves

Move	Definition	Example
Asking questions	Approaching the data with specific questions that researchers want answers to	How do actors "construct, navigate, and capitalize on timing norms in their attempts to change institutions"? (Granqvist & Gustafsson, 2016: 1009)
Focusing on puzzles	Focusing on the part of the data that is most surprising or salient to the researchers	It is puzzling that parties challenging established social systems collaborate with defenders of those same systems. (O'Mahony & Bechky, 2008)
Dropping categories	Dropping categories that were generated during the initial part of data analysis but that turned out not to have theoretical traction	Upon attending his first role-playing game event, the researcher noted that "there was no organization to the group: there was no membership chairman, no one that one had to meet to gain access; one simply walked in" (Fine, 1983: 244). Yet, rapidly, that category lost relevance as others gained more theoretical traction.
Merging categories	Uniting two or more existing categories to create a superordinate category	"In reviewing our first-level constructs and relating these to prior research, we concluded that all of them represented different phases and forms of identity work." Thus "identity work" was adopted as the label of a merged code. (Creed, Dejordy, & Lok, 2010: 1342)
Splitting categories	Separating a category into two or more subordinate categories	Splitting the category of Total Quality Management (TQM) "tools" into four subcategories, ranging from the least technical (general TQM methods) to the most technical (statistical tools). (Zbaracki, 1998: 610)
Relating or contrasting categories	Comparing several categories with one another to identify relationships between them (or the lack of such relationships)	Contrasting "grass-fed" and "conventional" to identify their similarities and differences. (Weber et al., 2008)
Sequencing categories	Temporally organizing categories that researchers have identified in the data	Researchers "sought evidence of boundary and practice work patterns that co-occurred in time, by actor type and by objective. We identified four cycles of interconnected boundary work and practice work. … We constructed raw data tables for each cycle to provide another iteration between the raw data and this higher level of abstraction. … These cycles together formed a complete lifecycle of institutional stability and change." (Zietsma & Lawrence, 2010: 200)
Developing or dropping working hypotheses	Formulating an overarching theory and, by iterating through the data, either finding increasing evidence for it, leading to its elaboration, or finding contradictory or unsupportive evidence, leading to its abandonment	"Throughout this cyclical process, we actively and continually called into question our emerging theoretical understanding by exposing it to further data analysis." (de Rond & Lok, 2016: 1971)

rigor (Abbott, 2004: 52). That is true for Table 1 as well—this is not a framework that should be applied as a template. Instead, researchers should apply the moves that allow them to generate insightful categories from their data and subsequently report verbally or visually the often messy process that resulted. In short, we not only echo the call for increased rigor but also encourage scholars to deploy their full and diverse analytical imagination in pursuit of strong theoretical insights.

ACHIEVING RIGOR IN QUALITATIVE ANALYSIS

Qualitative scholars have long tried to achieve a better understanding of how readers are convinced by ethnographic texts and how limited cases can lend themselves to rigorous interpretation (Golden-Biddle & Locke, 1993; Small, 2009, 2013; Staw, 1995). A debate has more recently ignited about how to improve methodological rigor (Gioia et al., 2013). To preempt skepticism about qualitative rigor, scholars have articulated broad guidelines on how to conduct qualitative research properly by calling on scholars to develop "a coding scheme and, insofar as possible, provide a sample of likely coding categories" (Lamont & White, 2008: 143)—yet they have been less explicit about how to do so.

As observed by Bansal and Corley (2011) and Langley and Abdallah (2015), in practice, many management scholars have translated the call for rigor into a need to follow seemingly proven and tested templates in written accounts of their analytical processes. While templates might prove useful in some circumstances, they can also obfuscate the researcher's generative role in the analytical process when applied indiscriminately. Moreover, using templates can hinder scholarly output because it constrains the multiple ways in which rich qualitative data can be mined for insights and have the unintended consequence of generated undue homogeneity in qualitative theory building. As Lamont and Swidler (2014: 157) argued, "Method debates are in fact theory debates." Even Strauss and Corbin (1990: 129) cautioned against the use of templates, first acknowledging: "We realize that beginners need structure and that placing the data into discrete boxes makes them feel more in control of their analyses." They then added:

> Analysts who rigidify the process are like artists who try too hard: although their creations might be technically correct, they fail to capture the essence of the objects represented, leaving viewers feeling slightly

cheated. Our advice is to let it happen. The rigor and vigor will follow. (Strauss & Corbin, 1990: 129)

Put another way, qualitative scholars may adopt different approaches when moving from data to theory; we argue that these various approaches may nonetheless be rigorous.

Here, we draw on categorization theory to explicate how researchers decipher their data and actively construct categories at different stages of the analytical process. In the process, we unpack how a qualitative scholar might "let it happen" (in Strauss and Corbin's terminology) while still ensuring that readers can both evaluate the scholar's analytical process and be better guided in their own future pursuits. Instead of promoting a unique template, we posit that rigorous qualitative analysis can be achieved by being transparent and detailed about individuals' active categorization choices during the process of discovery (Glaser & Strauss, 1967: 244). Such an approach to rigor means that readers assessing the move from data to theory are able to grasp and evaluate more clearly the many decisions made by researchers in their analytical pursuits (Eisenhardt, Graebner, & Sonenshein, 2016). This approach also encourages us to be more reflexive about our own research processes and how we build insights from our data (Bourdieu & Wacquant, 1992), which can help us achieve a stronger theoretical contribution.

Qualitative Analysis as a Categorization Process

At its core, the process of qualitative analysis entails sifting through data to generate new categories that can form the foundation for new theoretical insights (Becker, 2008; Charmaz, 1983; Fine, 1993; Golden-Biddle & Locke, 2007; Spradley, 1979; Strauss & Corbin, 1990; Van Maanen, 2011). As Charmaz (2006: 186) explained, "As the researcher categorizes, he or she raises the conceptual level of the analysis from description to a more abstract theoretical level." Van Maanen (1979: 541) likewise emphasized "categorizing" as a step to move from data to more general findings. In addition, Corbin and Strauss (1990: 7) stressed the importance of progressing from examining raw data to constructing and labeling larger groupings that capture instances of emerging categories to develop theory. To generate "overarching categories," they advocated identifying similarities between subordinate categories and merging them to create larger groupings. Importantly, within qualitative data, these categories are sometimes

concepts and at other times mechanisms, where mechanisms are categories of actions or behaviors that relate the concepts to each other (Davis & Marquis, 2005; Hedström & Swedberg, 1996).

The challenge of creating categories is exacerbated when data are rich and layered; this is true of much qualitative data. The richer and more layered the data, the more decisions the researcher needs to make in order to generate categories that form the basis for novel insights. Qualitative data tend to be rich and layered because they are often longitudinal (such that categories might vary over time) (Langley, 1999), are collected on an ongoing basis (such that the categories created initially no longer prove relevant later in the collection phase) (Lopez & Phillips, 2019), or derive from participants or data sources with differing perspectives (such that categories across participants or sources might differ) (Lofland, 1971). Nevertheless, while categorization is at the heart of qualitative analysis, we have not yet looked to theories of categorization as a way to reflect on the process of qualitative theory building.

Drawing on Categorization Research to Inform Theory Building

Scholars have long recognized that humans create categories to reduce the amount of information they need to process when navigating a complex, information-satiated world (e.g., Bowker & Star, 2000; Lakoff, 2008; Rosch, 1978). Categories are actively and socially constructed through a complex and multifaceted process that is driven by the knowledge, goals, and contexts in which the categorization process unfolds (Barsalou, 1983; Berger & Luckmann, 1967; Durand & Paolella, 2013; Murphy & Medin, 1985; Searle & Willis, 1995). For example, when antique dealers source pieces to acquire for their collection, they might distinguish them by century rather than grouping them by function, thus sorting the pieces, in effect, based on their goals and knowledge structures. By contrast, lay people would most likely sort antique furniture by salient functional features, for example, grouping all chairs together or all tables together. In other words, faced with the same set of elements, and depending on people's goals and existing knowledge, the sorting process will proceed differently, and people will ultimately most likely generate distinct groupings (Barsalou, 1983). The creation of categories can therefore not be decoupled from the person(s) who created them or the context in which they were created.

This active construction of categories not only shapes which categories are generated but also the process through which they are created. As the knowledge and goals of the categorizer change, so do the categories created (Vygotsky, 1987). Furthermore, the process of categorization is not linear and rational but characterized by iteration, detours, and regression (Bloom, 2000). Categories are often later forgotten. Some of these forgotten categories are lost forever, whereas others are recreated at a later stage, when the need for the same category arises (Siegler, 1998).

This active process also shapes the internal relationship between categories. Initially, scholars asserted that categories were organized hierarchically: each overarching category encompassed all the other categories underlying it (Murphy & Lassaline, 1997). For example, "beef," "lamb," and "pork" can all be viewed as subsets of the overarching category "meat," which in turn belongs to the overarching category "food." This view, however, has been challenged. First, scholars have found that not all categories are organized around hierarchies (Rosch, 1978). Second, more recent developments in categorization theory have emphasized that such sorting is often contextual and dependent on the goal. If the goal is to consume only grass-fed meat (Weber, Heinze, & DeSoucey, 2008), then one might reorder these elements into grass-fed and traditionally fed meat, regardless of the type of animal from which the meat is derived. Such a grouping can recast elements into very different categories and produce new relations between them.

Applied to qualitative analysis, such agency in generating categories suggests that there could be an infinite number of perspectives on a particular data set, depending on the context and on the coder's knowledge and goals. Furthermore, people's perspectives and goals evolve as categories are created, forgotten, and at times resurrected throughout the analysis process. Theory development encompasses many decisions that are anything but predefined and are therefore difficult to fit into templates. The scholar is always at the center of the process and is actively involved in making these choices.

Drawing on Past Qualitative Scholarship to Inform Theory Building

While an active perspective on theory building has not been at the center of qualitative analysis published in management scholarship (Bansal & Corley, 2011; Langley & Abdallah, 2015), a close reading

across decades of scholarship on qualitative analysis reveals that there is support for the active approach as an analytical strategy (Becker, 2008; Eisenhardt, 1989; Fine, 1993; Golden-Biddle & Locke, 2007; Langley, 1999; Miles et al., 2014; Spradley, 1979; Van Maanen, 2011). We propose that many of the moves used in qualitative analysis mirror processes identified in categorization theory. For instance, Becker (2008) outlined "tricks" that qualitative researchers can use to build theory. He encouraged researchers to actively start elaborating categories by asking themselves what questions their data can answer. As he articulated it, "The reformulated questions constitute the beginnings of conceptual construction" (Becker, 2008: 122). Overall, Becker suggested that asking questions may be what paves the way for theoretical development. Similarly, Lofland, Snow, Anderson, and Lofland (2006: 201) advised that, "where the rubber hits the road, so to speak, [is the point at which] you begin to condense and organize your data into categories that make sense in terms of your relevant interests, commitments, literatures, and/or perspectives." Thus, many foundational recommendations in qualitative analysis point to a range of ways in which qualitative researchers can actively approach their data to derive insights. These recommendations inform the moves (detailed next) that constitute the building blocks of our proposed active categorization framework.

AN ACTIVE CATEGORIZATION FRAMEWORK FOR THEORY BUILDING

In the following sections, we integrate insights from categorization theory with insights from the at times neglected qualitative scholarship to spotlight eight main moves in which qualitative researchers engage when sifting through data and developing theory. We detail how these eight moves can generate multiple pathways toward theory development. Like different swimming strokes, these moves enable researchers to swim differently through their data and reach diverse destinations. As such, they should be viewed as examples of possible moves. Analytical moves can be actively recombined in many ways to create multiple paths to insight, depending on the unfolding of the research process or the phenomenon in question. Researchers will then themselves be able to identify more moves and to recombine them in potentially infinite ways to create a rigorous data-analysis description with a fully transparent analytical process.

One way to think about the active categorization framework is to consider these eight moves in relation to three general stages in the analytical process: (1) generating initial categories, (2) refining tentative categories, and (3) stabilizing categories. Since analyzing data is a "live" and iterative process (Locke, Feldman, & Golden-Biddle, 2015), all moves can be useful at all stages of the process. Some moves, however, might be more relevant and more likely to be deployed at specific stages. In Table 1, the shading of each move during a particular analytical stage represents our expectations of its likelihood to occur at that time. In the following section, we present the moves, following this possible order of appearance.

Generating Initial Categories: Initial Data Collection and Analysis

Very few qualitative scholars approach field settings as fully blank slates (Lofland et al., 2006). Typically, qualitative scholars engage in early moves aimed at generating insights to prime the theory-building process (Spradley, 1979). When they are selecting field topics and starting to collect data, they draw on their existing knowledge and experiences to imagine possible pathways, setting aside others that do not trigger their curiosity. Thus, the choices and focus that researchers bring to their empirical inquiry seed the categorization process. We identified as central to this early seeding process two moves associated with generating initial categories: (1) asking questions and (2) focusing on puzzles. Here, we define these moves, relate them to methodological strategies that we have identified in existing qualitative scholarship, and provide empirical examples.

Asking questions. Categorization theory suggests that how humans make sense of the world depends on their prior understanding and initial goals (Barsalou, 1983; Durand & Paolella, 2013; Murphy & Medin, 1985). Deprived of existing categories, we would not be able to integrate or understand the world around us. Our existing categories are the foundations for the new categories that we form when presented with novel stimuli (Armstrong, Gleitman, & Gleitman, 1983). In particular, we categorize the same objects differently depending on the goals we are trying to achieve and the questions we ask of the world. For example, the categories people formulate to prepare to go camping consist of heterogeneous objects—such as boots, tents, and sleeping bags—that are united because they are useful for achieving the same goal. By contrast, given a different goal (such as going to work), boots and tents would not be viewed as part

of the same category. "Asking questions" is the move in which researchers draw on their existing categories to select and approach their field settings with specific questions to which they would like answers. By asking questions, and thereby restricting their goals up front, researchers begin to craft initial (possible) categories while they are collecting and analyzing their data. This is not to say that early questions are not revised or that new ones do not surface during analysis, but the initial path through the data is determined by which questions are asked.

A close read of existing scholarship on qualitative methods reveals that asking questions has been suggested as a move to initiate theory building (Glaser & Strauss, 1967; Spradley, 1979; Strauss, 1987). Although many qualitative scholars allow themselves to be guided by their field data and interactions, they still enter the field with some preconceptions and a history of past research designs and questions (Golden-Biddle & Locke, 2007). As Cohen (2013: 435) lucidly reported, "Many of the choices made in my [qualitative] research design followed directly from past research." This pattern explains why Strauss (1987: 306) labeled one common approach to qualitative data analysis as a "theory elaboration exercise," one in which past literature serves as a springboard for asking questions to spur new lines of research "in service of discovering" a new and more encompassing theory. Similarly, Spradley (1979) suggested that asking questions is a core part of the early discovery process because it is through questions that researchers create initial categories for the problem they are trying to understand.

Likewise, many scholars recommend ongoing efforts to answer the key question in generalizing beyond the chosen empirical setting: "What is this a case of?" Asking this question allows for an exploration of the conceptual possibilities offered by the data (Glaser & Strauss, 1967: 24), thereby generating theoretical insights that "bump things up a level of generality" (Luker, 2008: 138). Another reason why asking questions is an important part of the research process is that it helps the researcher to manage the complexity and overload of data, which can stand in the way of theoretical insights. Without such questioning, "The result is death by data asphyxiation—the slow and inexorable sinking into the swimming pool which started so cool, clear, and inviting and now has become a clinging mass of maple syrup" (Pettigrew, 1990: 281). Even if questions are not fully articulated, they are nonetheless ubiquitous in the mind of many researchers and offer gateways into the initial process of category construction and theory building.

Our analysis of published qualitative papers revealed examples of how authors have used questions to jump-start their theory development. Grodal, Nelson, and Siino (2015: 140) described their process as follows:

> Initially, our observations focused on [the] grand tour question (Spradley, 1979): "How do helping behaviors unfold?" Over time, however, as our inquiry became more focused on specific aspects of helping behavior, the nature of these questions changed to reflect our growing understanding.

Because the authors asked this question, helping behavior became the focus of their study, even though their data also spoke to other phenomena. Deeper into their analysis, they began to wonder how engagement is sustained during helping routines. Hence, their questions shifted at each stage and in many ways shaped the categories on which they honed in during their finer-grained analysis. This approach of iterative questioning is not unique: when describing the analytical process she followed in her study of employees' use of mobile devices, Mazmanian (2013: 1231) similarly reported asking questions of her data. Likewise, in her study of women doing "unpaid" work in VIP nightclubs, Mears (2015: 1099) asked the core question "Why do workers participate in their own exploitation?" as a trigger to her analytical process. With such questions in mind, these scholars were able to spearhead unique trajectories through their data. Asking questions is thus an important move in qualitative research because it allows researchers to proactively direct their analysis toward a specific theoretical end, making it more likely that the initial categories that emerge from the data-analysis process will be of theoretical significance.

Focusing on puzzles. Initial categories are also generated by "focusing on puzzles," the move in which researchers concentrate on the parts of the data they find most surprising or salient. Not all information is equally important in the categorization process (Bowker & Star, 2000). To categorize the world around us, we bring with us the knowledge we have already accumulated about a particular space (Durkheim & Mauss, 2009); thus, we categorize objects by making inferences based on the knowledge base we already possess (Hirschfeld & Gelman, 1994; Murphy, 2004). If we observe that a particular animal has wings, we assume that it can fly, lays eggs, and will tend to its young in nests. When our

knowledge of the world is confirmed in actual behavior, we hardly pay attention: these categories have become part of our taken-for-granted understanding of the world (Clark & Wilkes-Gibbs, 1986; Colyvas & Powell, 2006; Vygotsky, 1987). When the bird with wings takes off in flight, we happily proceed undisturbed.

Nevertheless, our observations do not always correspond to our existing knowledge about the world. If we encounter a bird with wings that cannot fly (such as a penguin or an ostrich), we pause in puzzlement. The lack of flight is a salient feature in an animal with wings; it forces us to pay attention. "Salience refers to the intensity of a feature, the extent to which it presents a high amplitude" (Sloman, Love, & Ahn, 1998: 193). Salience arises when an observation is at odds with our existing knowledge about a category, and it plays an important role in category formation because salience helps us to focus on the novelty and uniqueness of a specific situation (Ahn, 1999). For example, we might believe that all swans are white. Encountering a black swan creates dissonance with our existing cognitive structures, and we pay attention to the phenomenon in an attempt to find an explanation for the discrepancy. Salience might take the form of a contradictory exemplar—such as a puzzling person, event, or utterance (Smith & Zarate, 1992)—that challenges the conceptual coherence through which we view the world (Sloman et al., 1998). Focusing on puzzles might help us abduct new insights about a novel and untheorized category which *may be* present in the data (Behfar & Okhuysen, 2018; Locke, Golden-Biddle, & Feldman, 2008). In other words, a puzzling piece of data can function as a lightning rod, attracting insights around which new categories can form (Zhao, Ishihara, Jennings, & Lounsbury, 2018).

When developing theory, it is important to focus on what is surprising and unexpected in how the data relate to existing theory. Scholars have called such puzzles "negative cases" or "unusual" incidents (Katz, 2001: 331) and have emphasized their importance in the theorizing process, even if there is "only one case" (Emerson, Fretz, & Shaw, 2011: 193). Focusing on such cases can elucidate the patterns and variations in the meanings that members attribute to a given social setting. Stated otherwise, strong qualitative research might result precisely from focusing on the unexpected. In *Tricks of the Trade*, Becker (2008) described a move he called over-focusing on strange elements: he explained how "weird" findings (p. 208) or a "finding that does not fit" (p. 83) prove integral to theory development.

Miles et al. (2014: 301) also called attention to "outliers" and "surprises" when analyzing data. Many other scholars recommend honing in on puzzles as well. For example, Turco (2016: 206) described generating insight by "reading her field notes and memos several times through" and never being able to "jump right into line-by-line coding." Instead, she suggested "looking for empirical puzzles" (p. 206). In short, focusing on puzzling cases is an analytical strategy that researchers can use to stimulate new lines of inquiry.

When Desmond (2012: 1302) conducted his ethnography of evicted tenants in high-poverty neighborhoods, he noticed that these tenants relied more on new acquaintances than on kin ties to meet their more pressing needs, regardless of the strength or weakness of those ties (Granovetter, 1973):

> During everyday conversation, people in the trailer park and the inner city claimed to have no friends or an abundance of them, to be surrounded by supportive kinsmen or estranged from them. I came to view these accounts skeptically, interpreting them as a kind of data in their own right but not as accurate evaluations of people's social relationships.

This puzzling observation prompted Desmond to develop the notion of "disposable ties" as a new category of social ties not fully captured by the notion of weakness.

In a similar fashion, when describing her analytical process, Vaughan (1996: 461) highlighted how focusing on puzzles led her to generate theory about "normalizing deviance" in organizations. As she explained in relation to her study of the space shuttle *Challenger* disaster:

> I began coding [the data], but soon realized … that this strategy was flawed: aggregating statements from all interviews by topic (a practice I often used) would extract part of each interview from its whole.

Instead, to elaborate her analytical categories, she focused on the puzzle that informants' statements regarding a critical part of the space shuttle often contradicted the archival record—a move that proved to be core to her theorizing. Focusing on puzzles thus directs researchers' categorization efforts toward data elements that diverge from expectations and might therefore form the basis for generating new theory.

During their initial data collection and analysis, researchers generate initial categories by asking questions and focusing on puzzles. This is important in theory development because the initial questions and puzzles arise from discrepancies between what

researchers notice in the data in light of their understanding of past theories, which can help them abduct new theoretical insights (Locke et al., 2008; Timmermans & Tavory, 2012). In this stage, researchers therefore juxtapose initial categories with past theoretical insights.

Refining Tentative Categories: Further Analyses and Possible Added Data Collection

As research progresses, the process of data analysis shifts from generating initial categories toward refining tentative categories through moves such as "dropping categories," "merging categories," "splitting categories," "relating or contrasting categories," and "sequencing categories." These moves also help the analyst to begin distinguishing categories that might function as mechanisms from those that function as concepts and to begin mapping out the links between them. The combination of these moves starts to elaborate and challenge existing theories.

Dropping categories. When we categorize the world around us, we must often sort through an overwhelming amount of information (Murphy, 2004; Rosch, 1978). A consequence of the overload of information is that people initially generate categories that turn out not to be relevant to the categorization process. They might, thus, initially create categories that are faulty, biased, or irrelevant in explaining the phenomena that they are trying to categorize. When humans focus in on salient cues to guide in the categorization process, these initial categories might be salient for accidental reasons instead of representing stable patterns (Weick, Sutcliffe, & Obstfeld, 2005). An important part of the categorization process therefore entails dropping initial categories to focus the categorization process on categories that are more important and meaningful in explaining the phenomena at hand (Murphy, 2004). When people "drop categories," they stop paying attention to categories that are no longer relevant in explaining the phenomenon that they are paying attention to.

In the process of generating categories, researchers often create a multitude of categories, only a few of which will be essential in explaining the puzzle that they have identified in the data. Several qualitative scholars suggest that an important part of qualitative analysis is to revise and reduce the number of categories that are used to explain the phenomenon. Locke (2001: 79) for example suggested that "selecting out categories" is an important part of the analytical process and that, if "analysts feel they have in their

theory a coherent detailed and worthwhile story to tell then … they should drop the category." Likewise, Miles et al. (2014) discussed the possible disconnect between the researcher's emerging understanding of a phenomenon and the categories identified in the early stages of a project. In particular, "some codes do not work; others decay. No field material fits them, or the way they slice up the phenomenon is not the way the phenomenon appears empirically" (Miles et al., 2014: 82). The researcher realizes that "some codes do not work" and the associated categories should be either dropped or transformed to best reflect the data.

When researchers write their methods sections, they tend to focus on the categories that remained in their analysis more than the ones that were dropped. This is particularly true of published work wherein methods sections are often shorter than in working papers in which authors are more focused on convincing readers of their methodological astuteness. However, examples from the coauthors' own work suggest the importance of dropping categories for the categorization process.

In her research on constructing social and symbolic boundaries in the nanotechnology field, Grodal (2018: 792) described that she "developed some broad and some very specific codes … through several rounds of iteration and moving back and forth between broad and specific codes." This process involved in fact dropping several codes that turned out not to have theoretical traction. For example, the initial category "commercializing scientific knowledge," which was abundant in the data, turned out to be only peripherally related to the overarching theoretical story of how the social and symbolic boundaries of a field expand and contract over time; this category was therefore dropped from the analysis.

Similarly, when studying ghostwriters, Anteby and Occhiuto (2020) initially created the category "previously published" to track whether the ghostwriters they interviewed had published under their own name prior to agreeing to write for others and how ghostwriters spoke about such past publications. The intuition was that ghostwriters who had published under their own name might resent (more than others) being asked to remain invisible from public view. Ultimately, however, the category "previously published" proved partly irrelevant to the authors' main findings. The ways in which ghostwriters spoke about their own writing did not illuminate much about their work experience of producing someone else's self, or what the authors labeled "stand-in labor." While Anteby and Occhiuto (2020:

1295) noted that they "developed coding categories inductively," they could have also added that they dropped several categories while developing their theoretical insights.

Merging categories. When people "merge categories," they unite two or more existing categories to create a superordinate one. According to categorization theory, people initially tend to create elaborate and detailed categorization structures upon encountering unfamiliar objects or actions (Bloom, 2000). Subsequently, to refine the initial categorization structure and optimize the processing of information, people often merge these detailed categories to form superordinate ones. Over time, this merging process can result in intricate hierarchies of categories (Murphy, 2004). For example, after creating the categories "ants," "cows," and "jellyfish," a person might realize that all three can be assigned to a superordinate category, "animal," because they all move and depend on oxygen for their survival.

Historically, many qualitative scholars have characterized merging categories as a fundamental move in qualitative analysis (Charmaz, 2006; Locke, 2001; Strauss & Corbin, 1990). These scholars advocate beginning qualitative analysis with "open coding"; that is, generation of a plethora of specific categories that closely adhere to the phrasing articulated in the data. Ultimately, qualitative researchers should merge these categories into superordinate categories that capture the essence of their meaning. For example, Strauss and Corbin (1990: 223, 229) recommended that researchers progress from "open coding" to ultimately generating "overarching categories." As others have clarified, such a "clustering" process enables researchers to "clump" items into "classes, categories, bins" and to progress from "lower" to "more complex" categories (Miles et al., 2014: 279).

More recently, merging categories has become a common way to analyze qualitative data in organizational scholarship. Gioia et al. (2013: 20) emphasized both merging and the value of a "data structure" that depicts the conceptual movement from a multitude to a reduced set of categories:

> In this 1st-order analysis, which tries to adhere faithfully to informant terms, we make little attempt to distill categories, so the number of categories tends to explode on the front end of a study. There could easily be 50 to 100 1st-order categories. … As the research progresses, we start seeking similarities and differences among the many categories … a process that eventually reduces the germane categories to a more manageable number (e.g., 25 or 30). … Once a

workable set of themes and concepts is in hand … we investigate whether it is possible to distill the emergent 2nd-order themes even further into 2nd-order "aggregate dimensions."

Many qualitative papers have used the move "merging categories" in their data analysis, although they may not label it as such. Some have referred to merging as "combining" and "bundling" (Huising, 2015: 270); others have described "consolidating" (e.g., Anteby & Molnar, 2012: 522; Pratt, Rockmann, & Kaufmann, 2006: 240), and still others have reported that they "assemble" codes into "aggregate dimensions" (Nelson & Irwin, 2014: 900). Regardless of terminology, these researchers have proceeded from having many categories to having fewer categories, often referencing first-order categories, second-order categories, and overarching categories. For example, Ramus, Vaccaro, and Brusoni (2017: 1264–1265) described initially creating a large set of categories, which they gradually aggregated through subsequent data analysis:

> First, we performed open coding (Strauss & Corbin, 1990: 61) of each document to identify initial, empirical themes. … This stage of analysis drove us to identify many empirical themes … Once a workable set of conceptual categories had been developed, we moved to more deliberate theorizing in an effort to aggregate categories in an empirically grounded model that explained the process.

As an analytical process, merging categories can thus be found in both the categorization literature and the qualitative methodology literature as a strategy for refining categories. Due to its importance for theory development, this move has been widely used in recent empirical work. It appears to be the most prevalent step that authors currently report when conducting qualitative organizational research. Such an emphasis has generated an almost self-fulfilling prophecy (Merton, 1948), in that the sheer assumption that theory development rests mainly on merging categories minimizes other moves, such as splitting, which we turn to next.

Splitting categories. From studies of categorization, we know that humans' category formation does not progress uniformly from more categories to fewer through merging; often, progression occurs in the opposite direction, from fewer to more (Murphy, 2004). Researchers studying children's language development have noted that children often "overgeneralize"; that is, they use a category more broadly than is generally accepted. Over time, a child splits the overgeneralized category into its

component parts to create categories that are aligned with conventional usage (MacWhinney, 1987). For example, a young child might use the word "car" to refer to any object that moves, including a skateboard, a bicycle, and a ball. Over time, however, the child breaks down the category "car" and distinguishes between "skateboard," "bicycle," and "ball." "Splitting categories" is a move defined as separating a category into two or more subordinate categories.

Lofland and colleagues (2006: 119–143) asserted that probing the nuances of categories to create finer distinctions is an important component of theory generation. Spradley (1979: 144) also emphasized that identifying "subsets within a domain and the relationship between these subsets" is an important element in qualitative analysis. Miles et al. (2014: 284) wrote about "partitioning" and "unbundling" as critical ways to analyze data, adding that "there are many times when *differentiation* [emphasis in original] is more important than integration." As an illustration, researchers who have identified the category "people above" in their data might, through further analysis, split the category into such components as people "earning more" and people with "more ambition" than their informants (Lamont, 2000: 102–145). Spradley (1979: 115–116) suggested that the process of splitting categories can begin during data collection: if informants mention a category during data collection, researchers might ask if they can provide other examples of the category. By means of splitting, researchers can reach a more nuanced understanding of the different ways a category is manifested (or not) in their data.

Several qualitative studies provide examples of how splitting categories can advance theory. For example, a vibrant stream of research has developed around the notion of "emotional labor" (Hochschild, 1983); until recently, however, analysis of this form of labor remained quite monolithic. In her study of psychotherapy practices, Craciun (2018: 261) honed in on a single category—the use of emotions at work—that had emerged from her coding. Through further data analysis, she discovered that the use of emotions could be split into three categories: (1) "didactic," as a tool of intervention (e.g., when professionals use emotion to foster particular dispositions in their clients); (2) "supportive," as a tool that helps professionals to foster trust in their patients (e.g., when professionals are driven by passion for their work); or (3) "inductive" (e.g., when professionals rely on their emotions as epistemic tools to identify problems). Craciun also demonstrated that some professionals rely more heavily on one form of

emotional labor than the others, with important implications for their professional standing. Likewise, Petriglieri (2015) described how, in her study of BP executives during and after the 2010 Gulf of Mexico oil rig explosion and spill, she came to split a category she had developed during the first stage of her analysis to gain a more nuanced understanding of the relationship between an organization and its members. While she initially developed the category "questioning fit between self and organizational identity" as a theme, she realized that dividing the category into emotional and cognitive components could lead to even more insights (Petriglieri, 2015: 526). Others have also described how they have split categories in order to specify their understanding of a category (e.g., Crosina & Pratt, 2019). Broadly speaking, splitting can help researchers to recognize nuances in their data and unpack a specific category that has piqued their curiosity.

Relating or contrasting categories. Categorization scholars have suggested that categories are not created independently of one another but often evolve in parallel. In particular, many scholars have asserted that categories are typically interrelated in semantic networks (Collins & Loftus, 1975; Quillian, 1969). Categories that often cooccur in discourse become more closely related in the semantic network, whereas categories that seldom occur together become more distantly related. For instance, if the category "dog" is often used in conjunction with the category "leash," the two words will ultimately be closely related in the semantic network. Nevertheless, it is not merely categories' association with one another that creates categorical meaning; it can also be their perceived opposition. Categories often exist in contrasting pairs (Douglas, 1966; Lévi-Strauss, 1969). For example, people construct the meaning of the category "natural" in part from its contrast with the category "artificial" (Weber et al., 2008). The meaning of categories is therefore determined by the way people relate and oppose categories to one another (Kahneman & Tversky, 1984).

"Relating or contrasting categories" is the move that researchers use when they compare several categories to specify the relationships (or lack thereof) among them. It is important to clarify how relating or contrasting categories differs from merging: "merging" identifies underlying features that belong to the same category; "relating or contrasting categories" identifies relationships among categories that might not belong to the same overarching category.

Many qualitative scholars have emphasized the importance of comparing or contrasting categories

(Golden-Biddle & Locke, 2007: 45; Suddaby, 2006), thus implicitly acknowledging that categories can only operate in relation to one another. Strauss and Corbin (1990: 125) noted that categories are "related"; Becker (2008: 132–133) similarly called all categories "relational," pointing out that "working class" and "middle class" labels have meaning only in relation to each other. Glaser and Strauss (1967: 106) thus provided the following recommendation:

> While coding an incident for a category, compare it with the previous incidents in the same and different groups coded in the same category. This constant comparison of the incidents very soon starts to generate theoretical properties of the category. The analyst starts thinking in terms of the full range of types or continua of the category … [including] its relation to other categories, and its other perspectives.

Many other qualitative scholars would concur: the recommendation of Booth, Colomb, and Williams (2003: 46) to scholars progressing from a focused topic to a research question is to "identify the parts [of a topic]" and "how they relate to each other"; Miles et al. (2014: 287) suggested that, once one is "reasonably clear about what variables may be in play in a situation, the natural next query is, 'How do they relate to each other?'"

Powerful examples of how categories relate to one another appear in Lévi-Strauss's (1969) *The Raw and the Cooked* and Douglas's (1966) *Purity and Danger.* Lévi-Strauss's study illustrates that myths cannot be understood in isolation: he describes a collection of myths from tropical South America and points out how duality and oppositions (such as raw vs. cooked) are fundamental to humans' understanding of society. Douglas's (1966) seminal work on purity makes a similar relational point: specifically, that the categories of "pure" and "impure" function as a dyad, creating oppositions that enable individuals to make sense of their worlds; in other words, we know what is impure by comparing it to what is pure.

A more recent example of such relational dynamics between categories appears in a study of professionals' social standing in organizations. The study examined commander–medical provider interactions in a military setting. As DiBenigno (2018: 18) explained, she coded whether observed interactions entailed "developing personalized relationships across groups" or "anchoring group members in their home group identity." These two categories could be understood separately, but they only fully made

sense in relation to each other: one entailed anchoring oneself in an existing identity; the other involved building ties across identity groups. Importantly, only anchoring contributed to taming intergroup conflict and encouraging the medical providers to properly serve the soldiers. Relating or contrasting categories helps researchers to identify in their data the boundaries of the categories and the relationships between categories.

Sequencing categories. Categories are not static; they are dynamically related to the world that people inhabit. An essential part of the categorization process is to create dynamic understandings of this unfolding reality (Durand & Paolella, 2013; Nakamura, 1985). Categories are not merely cross-sectional groupings of objects; they encode causal relationships between objects and actions (Murphy & Medin, 1985). We categorize an event as a "birthday party" not only due to the presence of a birthday cake and presents but also because the event follows a sequence of actions: (a) guests arrive, (b) the guests make congratulatory statements, (c) the guests sing a birthday song, (d) cake is served, (e) candles are blown out, (f) cake is eaten, and (g) guests leave. Breaking this sequence (e.g., by serving and eating cake before the guests arrive) violates elements of the category "birthday party" and raises questions about whether the event falls into this category. Indeed, a central part of the categorization process is to create sequential relationships among categories, be they concepts or mechanisms (Ahn, 1999; Murphy & Medin, 1985). In qualitative theory building, researchers can use the sequencing move to temporally organize the categories they have identified in the data. The categories created by researchers consist of sequences of actions (mechanisms), objects, persons, and events (concepts) that together form complex theories of reality.

A rich tradition in qualitative research has focused on sequential processes as a lens through which to achieve a better understanding of various phenomena (Langley, 1999; Langley, Smallman, Tsoukas, & Van de Ven, 2013; Tsoukas & Chia, 2002). From this viewpoint, the sequencing of categories matters decisively: an [A–B–C] sequence might differ from a [C–B–A] sequence. As Locke (2001: 42) noted, process-oriented research can be described in many ways, but all "reflect a common element, namely time." Langley (1999: 696) reminded us that events, phases, incidents, and ordering are all fundamental to the coding process. Process scholars position time at the forefront of their analysis, but many other

qualitative researchers also recognize the importance of time in theory elaboration. In *The Discovery of Grounded Theory*, Glaser and Strauss (1967: 213–214) discussed sequencing in conjunction with studying research productivity. Longer hours spent on research, they noted, can foster a higher level of motivation and, thus, superior performance, but those who perform at a higher level might be more motivated than their peers and might therefore spend more time conducting research. Thus, how the categories "hours spent at work," "motivation," and "productivity" are temporally aligned can yield two very different theoretical stories, one led by the hours worked and the other by high performance. Such distinct theoretical interpretations point to why qualitative researchers need to pay close attention to the sequencing of categories when analyzing their data.

Sequencing is important in qualitative analysis because the interrelationship between categories is essential to identifying processes and their temporality. In Jarzabkowski's (2008) investigation of top managers' strategizing behavior, an important part of the analysis was to create a temporal sequence. The author described how she "decomposed each chronology into analytical periods time 1, time 2, and, if relevant, time 3 according to key strategic responses or a discernable shift in top manager behavior" (p. 626). She then generated categories to characterize the behavior within each period and sequenced them in time. Similarly, to understand how organizations legitimated the new market category "satellite radio," Navis and Glynn (2010) compared patterns of categories associated with data collected over a period of six years. By sequencing categories, the authors uncovered specific shifts in organizational identity and audience attention. Finally, Barley's (1986: 86) examination of technology change as an occasion for social structuration relied on data analysis that "traced the analytic logic suggested by the sequential model of the structuring process"; this indicated that the sequencing of scripts (or categories) mattered as much as the categories per se. In all three examples, sequencing enabled the researchers to develop novel insights into the temporal relationship between categories.

In the process of juggling these merging, splitting, relating or contrasting, and sequencing moves, the researcher begins to tease out some categories that function more like mechanisms and others that function more like concepts. This is important because one of the fundamental elements of theory development is not only to identify categories but also to

offer a novel perspective on the interrelationship between concepts and mechanisms. Such efforts can add to or even contradict what other theoretical lenses would predict, thereby fulfilling the goal of achieving a more comprehensive understanding of our social worlds.

Stabilizing Categories: Re-Analyses and Theoretical Integration

In the final analytical stage, the researcher aims to create a theoretical scaffold to explain the studied phenomena by reanalyzing existing categories and integrating identified mechanisms and concepts. This stabilizing stage often allows researchers to provide answers to or explanations for their initial questions or puzzles. One of the critical moves in this stage entails "developing or dropping working hypotheses." This move allows the researcher to examine whether the data truly support the theoretical conclusions reached in the prior stages and to be more actively reflexive of how these conclusions were reached.

Developing or dropping working hypotheses. Categories are part of larger "theories" or "working hypotheses" that we have formed to explain how the world works on the basis of prior experiences (Hirschfeld & Gelman, 1994; Murphy, 2004). We know, for example, that, when apples are dropped, they fall to the ground because of gravity. When encountering other instances of dropped objects, we assume that gravity is also involved and look for evidence of gravity in these new contexts. Gravity is thus part of our theory of the category "apple," and we would pause in astonishment if an apple did not fall but flew into the sky when dropped. In this instance, we would probably begin to question whether the object we had dropped actually belonged to the category "apple," because its behavior did not conform to our "theory" of the apple category. Thus, how we construct categories cannot be decoupled from the broader theoretical conjectures that form an integral part of a category (Durand & Paolella, 2013; Murphy & Medin, 1985). In our interactions with the world, we are constantly updating our working hypotheses and fitting them to our lived experiences (Hirschfeld & Gelman, 1994). Such updating might lead us to replace hypotheses about relationships that we once considered true with new ones (Ahn, 1999). In developing or dropping a working hypothesis, researchers formulate an overarching understanding of their data. As they iterate through their data, they find either confirmatory evidence, spurring them to elaborate the hypothesis, or

contradictory or unsupportive evidence, prompting them to drop it.

Past advice on how best to approach qualitative data analysis emphasizes the need to develop, but also to drop, working hypotheses. As Luker (2008: 199) elegantly articulated it, "We make private bets with ourselves about what features … will turn out to be actual patterns. We know we will often be wrong … but we hang in there." The frequent recommendation is for qualitative scholars to "abduct" insights from their data (Timmermans & Tavory, 2012) without fully committing to them, so as to be able to redirect their analytical eye and remain open to surprises. Locke and her coauthors (2008: 907) noted the coexistence of "doubt and belief" when analyzing data, suggesting that both knowing and not knowing are central to the research process. The sense of knowing might lead to what some authors call "propositions," but propositions ought to be grasped loosely until each is either supported by further data analysis or dropped (Lofland et al., 2006: 176). This "back-and-forth … in which concepts, conjectures, and data are in continuous interplay" serves as the backbone of many analyses (Van Maanen, Sørensen, & Mitchell, 2007: 1146). Such a shifting picture explains why Miles et al. (2014: 99) recommended developing propositions to "formalize and systematize the researcher's thinking into a coherent set of explanations," yet immediately warned researchers to adopt "safeguards against premature and unwarranted closure." One way to build such safeguards, they observed, is to purposely rate each conjecture as strong, qualified, neutral, or contradictory, thus allowing the researcher to scrutinize those most likely to emerge from the data and discard those that no longer fit.

In their study of women crying at work, Elsbach and Bechky (2018: 134–135) started their analysis by identifying and coding events when women cried at work to form a richer understanding of this phenomena. After the initial coding, they "developed a preliminary model of defining the common situations in which women cried at work" and hypothesized that the forms of situational emotional display could predict the observers' reactions. They then returned to the literature to make sense of their data and began to understand their data in light of the theory of "emotional display rules." They found, however, that their data "did not fit with these simplistic rules." Instead, through engagement with existing theory, they went on to create the new hypothesis that observers' reactions could be explained by their own "cognitive scripts." After forming this new hypothesis, they returned to the data and found support for this hypothesis.

Unsupported working hypotheses, however, often disappear from the public view: typically, only successful hypotheses graduate to presentation in print. Some authors' retrospective comments on published pieces allow us nonetheless to see how working hypotheses wax and wane. For instance, Chan and Anteby (2016) began studying frontline officers at the U.S. Transportation Security Administration a decade after its creation. Initially, they focused on developing categories capturing how employees had been socialized into a possible new profession. Finding little support for the hypothesis that their data spoke to this theme, however, they rapidly refocused the categorical analysis onto what interviewees deemed most salient with respect to gender discrimination and surveillance at work, and developed new working hypotheses (Anteby & Chan, 2018; Chan & Anteby, 2016). In general, when researchers progress from data analysis to theory development, developing or dropping working hypotheses is an important move: it prompts researchers via multiple iterations through the data either to marshal strong support and validity for their assumptions or to realize that their initial assumptions were faulty and to discover new ways of interpreting their data (Locke et al., 2015). Once categories are stabilized and hypotheses are supported, researchers can propose a scaffold that both fits their data and advances theory.

DISCUSSION

The most important, yet mysterious, aspect of qualitative data analysis is rigorous theory generation. In this paper, we have integrated insights from categorization theory with often-neglected methodological strategies to develop a framework for how scholars can achieve and demonstrate rigor in qualitative analysis. By being reflexive about their active role in confronting and creating categories, scholars can be more transparent about their choice of moves, and thus increase the rigor of their analytical process by making it easier for readers to assess the work. Our framework provides an overview of how researchers' purposeful use of multiple moves can generate theory from data. By spotlighting the various moves in which qualitative researchers engage, our hope is both to help fuel more rigorous scholarship and to allow readers of qualitative research to evaluate qualitative research efforts more effectively.

Although any of the moves can occur at any point in time during the analytical process, the generation

of initial categories often occurs when researchers *ask questions* that elicit insights from the data or when they *focus on puzzles* in which the data conflict with existing theories. After this initial stage, and in order to refine tentative categories, qualitative scholars can *drop*, *merge*, or *split* categories, to make them more or less encompassing, or organize categories, either by *sequencing* them temporally or by *relating or contrasting* them with each other. Finally, in order to stabilize categories, researchers *develop or drop working hypotheses* as they build on their analysis to progress toward theoretical insights. The model of theory development that we suggest is active and iterative: researchers constantly cycle through multiple and distinct moves while purposefully probing and revisiting initial categories. We argue that qualitative researchers who adopt such an approach to data analysis will not only improve the transparency and rigor of their work but also be better equipped to develop powerful theories that break with existing understandings of the world. When researchers become more reflexive, they open the black box of qualitative analysis to gain greater insight into their own analytical process, which allows them to question and challenge their own assumptions. It is this prodding that might allow them to develop greater theoretical insights.

Rigor via Reflexivity on Scholars' Active Role in Categorization

Qualitative researchers have long been attuned to the challenges associated with achieving rigor in their work and the need to detail their movement from data to theory carefully (Glaser & Strauss, 1967: 244). Indeed, the most significant challenge for qualitative researchers "is not to find more rigorous methods … [instead] the challenge … is to convince its practitioners that they owe it to themselves … to explicate their procedures fully" (Comaroff, 2005: 38). Nevertheless, recent debates, inspired in part by the rise of the behavioral sciences, have made it more urgent to address these concerns (Pratt et al., 2020). We argue that, by being more reflexive about the active process of categorization, scholars can better demonstrate transparency in their movement from data to theory, which will allow readers to better evaluate the rigor of their work.

Taking an active perspective on the process of analyzing qualitative data suggests that researchers bring their own experiences and goals to bare on the analytical process. Some scholars have argued that a sign of rigor in qualitative analysis is the ability of others to replicate the *same* theoretical contribution when presented with the same data (Aguinis & Solarino, 2019). Others, however, have posited that this concept of "replicability," which is borrowed from quantitative research, should be interpreted differently within qualitative scholarship (Pratt et al., 2020). As Small (2009: 28) noted, qualitative researchers might need to embrace "alternative epistemological assumptions better suited for their unique questions rather than retreat toward models designed for statistical descriptive research."

In sum, unless we assume that all scholars have the same cognitive or experiential predispositions, the question of replicability becomes partly mute. Instead of focusing on replicability as the path to rigor, we suggest that scholars can achieve and demonstrate rigor in qualitative research by being, first, more reflexive and, subsequently, more transparent about their metacognitive knowledge—that is, knowledge about their own knowledge and goals (Pintrich, 2002). As researchers, we might obtain a greater degree of rigor in our work if we are explicit about and carefully detail our own knowledge and goals before and during our data collection and analysis. It is thus important that researchers find ways to report and represent their data that increases the transparency of their research process. Researchers can do this either verbally, by detailing the moves that they engaged in and the consequences each move had for their theoretical development, or they can create visual representations of the analytical process that are true to how the research unfolded and that show the complexity and messiness of the categorization process.

Unfolding the Analytical Process: An Opportunity for Theory Building

We argue that, instead of mapping out all the possible and replicable categories in any given data set, qualitative researchers achieve rigor by tracing and detailing their unique pathway through the data. Additionally, we argue that active categorization is more likely to yield theoretical insights. Following categorization theory, we suggest that entering the field with some theoretical understanding is both unavoidable and generative, and that not all data are equally valuable for generating theory. For example, categorization theory suggests that the process of categorizing fundamentally forces us to *not* pay attention to all the stimuli we encounter (Murphy, 2004). If we paid attention to all the information at once, we would suffer from cognitive overload and be unable

to create a coherent representation of the world, let alone navigate through it (Rosch, 1978). Likewise, because most areas of organizational life are already explained by existing theories, it is important for qualitative researchers to *not* focus on the elements of their data that can be explained within existing theories. Instead, we need to focus on the questions and puzzles that challenge the current understanding of the phenomenon at hand and clearly explain the path that helped us to reach our conclusions— that is, we need to focus on salient elements of the data that cannot be explained within our existing categorical apparatus (Ahn, 1999; Sloman et al., 1998).

Theory represents an abstracted and simplified lens on reality that contributes to a specific body of literature (Merton, 1973). Strong theoretical pieces shine because of what they teach us: they help us to see new connections, revisit our preconceived viewpoints, and develop new takes on old questions. When reading seminal academic articles and books, we focus on their theoretical insights and can easily gloss over the analytical choices that underpin these findings. Nevertheless, these insights are enabled by how scholars have generated theory from data. This is particularly true of qualitative data analysis, which relies on researchers' interpretations of their data and the analytical moves they make to generate theory from data. Such an approach counters the illusion of a fully detached and comprehensive induction of theory from data. The comprehensive yet unintentional categorization of qualitative data is unlikely to yield novel theoretical insights because it will mostly reproduce an existing understanding.

An active categorization framework recognizes the unfolding of the research process and implies that researchers select different moves at different times in the analytical process to generate rigorous theory. For example, "asking questions" might be particularly well suited to early phases of data analysis, prior even to developing categories, or to very late phases in which researchers feel stuck. Similarly, the development of working hypotheses is most likely to occur after several categories have emerged and been placed in relation to one another. Thus, focusing exclusively on one move only tilts a scholar's efforts and attention toward a single phase of the analytical process, which, although important, might not stand alone. By spotlighting a researcher's potential toolkit of moves, we emphasize the sequential and iterative nature of any analysis and underline that concentrating on a single phase or move might restrict our ability to theorize in all phases of the research. This is not to say that questions or

puzzles do not evolve. Nonetheless, driving the analytical process with tentative questions or puzzles is critical to theory development.

Plurality within Qualitative Analysis

Adopting an active categorization frame means that researchers can approach the same data with different goals and analyze them in different ways. The theoretical insights that are drawn from the data are thus not simply "given" in the data but actively constructed by researchers to address puzzles that they find interesting and important. Other researchers might view the same data very differently: as we know, many valuable insights emerge from the interaction of different individuals in distinct fields (Anteby, 2013; de Rond & Tunçalp, 2017; Hudson & Okhuysen, 2014; Ketokivi & Mantere, 2010; Louis & Bartunek, 1992). Building on the discussion by Lamont and Swidler (2014) of diversity in qualitative methodologies, we call for more plurality both within and across qualitative studies to fully leverage the richness and potential of qualitative data. By combining analytical moves in different ways, researchers are ultimately likely to generate more diverse insights from the same data set, thus contributing to a broader range of literature.

Beyond the fact that different paths can be taken through the data, if researchers foreground certain moves over others, it might shape their theory development. A plurality of analytical approaches is therefore likely to foster more diversity in contributions. For example, if researchers focus more on puzzles, they are more likely to generate theory that challenges existing theoretical understanding because the puzzling phenomena in the data derive precisely from the contrast they present when juxtaposed with existing theories. This is the case in the analysis by McPherson and Sauder (2013: 165) of how occupational groups can advantageously hijack one another's occupational logics. By focusing on the puzzle of why some occupational groups did not uniformly display their own occupational logics, McPherson and Sauder (2013) were able to demonstrate that logics can be used for strategic purposes to "manage institutional complexity, reach consensus, and get the work … done." Thus, because the authors focused on a specific puzzle in their data, they developed an insight that broke with the prevailing understanding of how logics operate.

Likewise, if researchers ask questions of their data, they will develop theory that might be more likely to expand existing understanding. As an illustration,

Tripsas and Gavetti (2000) asked how cognitions (and not capabilities) might shape firms' abilities to manage technological discontinuities. From this point of departure, they were able to develop a perspective that departed radically from prior views of how firms manage technological transitions. If researchers start by merging or splitting categories, without asking questions or focusing on puzzles, it is often difficult for them to gain theoretical traction, because, without a guiding question or puzzle, they can easily become overwhelmed by the multiplicity of possibilities and asphyxiate in their data (Pettigrew, 1990).

The role of dropping, merging, splitting, relating, and sequencing categories is to refine categories that are created around an initial puzzle. These moves are likely to generate greater specificity in the resulting theory because they provide the researcher with more nuances in the created categories. However, prioritizing any of these moves is likely to generate different theoretical outcomes. An emphasis on dropping will, for example, narrow researchers' focus on a smaller part of the data, allowing them to develop a more detailed explanation of a smaller piece of the reality that is captured in the data. This is often a cornerstone of qualitative analysis, as any given qualitative data set is multifaceted and complex and can be used to address a wide variety of theoretical questions. If researchers emphasize merging and splitting, the resulting theory is likely to be better at explaining cross-sectional variation, as has been done in research drawing on multiple cases (e.g., Graebner & Eisenhardt, 2004; Ozcan & Eisenhardt, 2009) or a matched pairing of cases (e.g., Barley, 1986; Kellogg, 2009, 2019). In contrast, if researchers focus to a greater degree on sequencing, their resulting theories are more likely to excel at explaining processes and mechanisms (e.g., Navis & Glynn, 2010; Zietsma & Lawrence, 2010).

The timing of our call for increased plurality in qualitative research is important. Although both categorization scholars and qualitative scholars have shown that categorization processes are diverse, a renewed positivist orientation has, in practice, engendered uniformity in analytical approaches to qualitative organizational research (Bansal & Corley, 2011; Gioia et al., 2013; Langley & Abdallah, 2015). Nevertheless, as we have demonstrated, scholars across the social sciences have found that categories are often generated not solely through applying a single move but by focusing on puzzles that arise in the data and by applying a variety of possible moves to generate categories that yield answers to that puzzle

(e.g., Bingham & Kahl, 2013; Bloom, 2000; Bowker & Star, 2000; Khaire & Wadhwani, 2010; Lakoff, 2008; Murphy, 2004; Rosch, 1978). Gehman, Glaser, Eisenhardt, Gioia, Langley, and Corley (2018: 14) counseled that "it is important to customize the method for your research context. Research situations are different and require the use of tools and techniques in different ways." A call for increased rigor should therefore not be confused with a call for uniformity.

CONCLUSION

Overall, this article posits that qualitative analysis is fundamentally a categorization process. By drawing on categorization theory, we spotlight the range of diverse ways in which categories are actively formed. To obtain rigor in qualitative analysis, we need to be transparent about these active moves because otherwise readers cannot assess the precision of our work. We also suggest that adopting an active categorization framework has critical consequences for how qualitative analysis unfolds and for the theoretical insights we generate. If we do not problematize the creation of analytical categories, we will be limited in the kinds of theoretical insights we are able to develop. In other words, an active categorization framework can liberate scholars to discover pathways through the data that might be less heavily traveled and, thus, more innovative. Moving in lockstep, using identical tools, we may appear aligned and convey an impression of rigor when, in reality, we are trampling on the seeds of our own imaginations.

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