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Abstract

Coding is the core process in classic grounded theory methodology. It is through coding that the conceptual abstraction of data and its reintegration as theory takes place. There are two types of coding in a classic grounded theory study: *substantive coding*, which includes both open and selective coding procedures, and *theoretical coding*. In substantive coding, the researcher works with the data directly, fracturing and analysing it, initially through *open coding* for the emergence of a *core category* and related concepts and then subsequently through *theoretical sampling* and *selective coding* of data to theoretically saturate the core and related concepts. *Theoretical saturation* is achieved through *constant comparison* of incidents (indicators) in the data to elicit the properties and dimensions of each category (code). This constant comparing of incidents continues until the process yields the *interchangeability of indicators*, meaning that no new properties or dimensions are emerging from continued coding and comparison. At this point, the concepts have achieved theoretical saturation and the theorist shifts attention to exploring the emergent fit of potential theoretical codes that enable the conceptual integration of the core and related concepts to produce hypotheses that account for relationships between the concepts thereby explaining the latent pattern of social behaviour that forms the basis of the emergent theory. The coding of data in grounded theory occurs in conjunction with analysis through a process of *conceptual memoing*, capturing the theorist's ideation of the emerging theory. Memoing occurs initially at the substantive coding level and proceeds to higher levels of conceptual abstraction as coding proceeds to theoretical saturation and the theorist begins to explore conceptual reintegration through theoretical coding.

Key words: classic grounded theory, coding, conceptualization, memoing, preconception

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Introduction

There are a number of coding challenges that may confront those undertaking a grounded theory study. Among the most common challenges are those of preconceiving the study through the import of some standard qualitative research requirements, raising the focus of coding and analysis from the descriptive to the conceptual level and trusting one's intuitive sense of the conceptualization process to allow a core category to emerge, then being comfortable to delimit data collection and coding to just the core concept and those concepts that relate to the core. Those inexperienced in grounded theory methodology may worry about missing something when they leave the rest of the data behind but it is important to remember that grounded theory is about concepts that emerge from data, not the data per se. A fourth major challenge for many is the use of theoretical codes. Many who attempt grounded theory are captured by the energy of conceptual emergence at the substantive level and settle for a few good concepts but do not sustain the discipline and patience to systematically integrate those concepts through theoretical coding. This task is made more difficult if they have neglected the important process of memoing in conjunction with coding and analysis.

Developing one's skills as a grounded theorist takes practice; the method is best learned by cycling through the various procedures learning from each attempt and developing clarity and confidence in their application. This paper will explore each of the aspects and challenges of coding as outlined above. I have illustrated various aspects of coding by offering the reader details from my experience with the methodology as employed in my doctoral thesis (Holton, 2006).

The conceptualization of data is the foundation of grounded theory development. The essential relationship between data and theory is a conceptual code. Coding gets the researcher off the empirical level by fracturing the data, then conceptualizing the underlying pattern of a set of empirical indicators within the data as a theory that explains what is happening in the data. Coding gives the researcher a condensed, abstract view with scope and dimension that encompasses otherwise seemingly disparate phenomena. Incidents articulated in the data are analysed and coded, using the constant comparative method, to generate initially substantive, and later theoretical, categories.

Navigating the Coding Process

> In grounded theory the analyst humbly allows the data to control him as much as humanly possible, by writing a theory for only what emerges through his skilled induction. The integration of his substantive theory as it emerges through coding and sorting is his verification that the hypotheses and concepts fit and work and are relevant enough to suggest. They are not proven; they are theory (Glaser, 1992, p.87).

The coding process is not a discrete stage as it is in some research methodologies but rather a continuous aspect of the analytic nature of classic grounded theory. As such, knowing how and when to engage in the various aspects of coding is essential to capturing the conceptual power of the methodology. This requires the analyst understand the distinctions between substantive coding and theoretical coding, between open coding and selective coding, as well as the cycling nature of constant comparison and theoretical sampling in progressing the analysis toward higher levels of conceptual abstraction, core emergence, and theoretical integration. Beyond understanding these distinctions comes the ability and the confidence to employ all aspects of coding as developed over time and with continued experience. The ability to intuitively trust in knowing when to move from one stage in the process to another builds with experience as the analyst gains confidence in exploring and confirming conceptual ideas as they emerge.

Theoretical Sensitivity

The ability to conceptualize rests with the researcher's theoretical sensitivity; that is, their ability to generate concepts from data and relate them according to normal models of theory in general (Glaser, 1978, pp.1-17; 1992, pp.27-30, 49-60). Theoretical sensitivity requires two things of the researcher: analytic temperament and competence. The required analytic temperament will allow the researcher to maintain analytic distance from the data, tolerate regression and confusion, and facilitate a trust in the power of preconscious processing for conceptual emergence. As to analytic competence, the researcher must be able to develop theoretical insights and abstract conceptual ideas from various sources and types of data. Reading widely in other disciplines is a recommended means of enhancing theoretical sensitivity (Glaser, 1998, pp. 164-165; 2005, pp. 7-10).

Substantive Coding

Substantive coding is the process of conceptualizing the empirical substance of the area under study: the data in which the theory is grounded. Incidents are the empirical data (the indicators of a category or concept) from which a grounded theory is generated. The process proceeds from the initial open coding of data to the emergence of a core category, followed by a delimiting of data collection and analysis for selective coding to theoretically saturate the core category and related categories.

Open Coding

Beginning with line-by-line open coding of data and comparing incidents to each other in the data, the researcher codes the data in every way possible and asks a set of questions of the data: 'What is this data a study of?', 'What category does this incident indicate?', What is actually happening in the data?', 'What is the main concern being faced by the participants?', and 'What accounts for the continual resolving of this concern?' (Glaser, 1998, p.140). These questions sustain the researcher's theoretical sensitivity, transcend descriptive details, and encourage a focus on patterns among incidents that yield codes. Line-by-line coding forces the researcher to verify and saturate categories, minimizes missing an important category, and ensures relevance by generating codes with emergent fit to the substantive area under study. It also ensures relevance of the emerging theory by enabling the researcher to see which direction to take in theoretically sampling before becoming too selective and focused on a particular problem. The result is a rich, dense theory with the feeling that nothing has been left out (Glaser & Holton, 2004, para 50).

In grounded theory, it is essential that researchers do their own coding as coding constantly stimulates conceptual ideas. The researcher codes for as many categories as fit successive, different incidents. New categories emerge and new incidents fit into existing categories. Coding may feel very awkward at first, and the researcher may feel uncertain about labelling the codes, but this sense of uncertainty gradually subsides with continued efforts at analysis. Grounded theory's tandem processes of coding and memoing help to alleviate the pressure of uncertainty by challenging the researcher to stop coding and capture, in the moment, their conceptual ideas about the codes that they are finding. As coding and memoing progress, patterns begin to

emerge. Pattern recognition gives the researcher confidence in the coding process and in his or her innate creativity; it encourages the researcher to continue while offering guidance on where to go next in the data collection, coding, and analysis process.

It is, however, at this initial stage of open coding that the inexperienced grounded theorist may feel especially challenged and insecure. A linear, lock-step attempt at employing the method's procedures without having sufficiently grasped the iterative nature of the overall process can result in coding confusion. Jumping to selective coding before a potential core category has emerged; sorting memos prior to theoretical saturation; or becoming overwhelmed by the data and concerns with 'worrisome accuracy' (Glaser, 2004), particularly in the collection and transcription of qualitative interview data, can all result in coding chaos.

The solution, of course, is relatively simple if the researcher simply trusts and follows the procedures of classic grounded theory. As a starting point, selecting to use field notes enables the researcher to dispense with the meticulous and time-consuming efforts required to record and transcribe detailed interview data and mitigates being overwhelmed by its descriptive detail. While frequently discouraged by qualitative review panels and thesis committees as lacking sufficient rigour, field notes enable the grounded theory researcher to capture the essence of the participant's main concern and how that concern is resolved without the burden of laborious transcribing followed by the tedium of reading through and coding lengthy transcriptions.

By comparison, line-by-line coding of field notes enables the researcher to stay focused on what is really happening and facilitates coding on a higher conceptual level without the distraction of endless descriptive and superfluous detail. The process stays vibrant and generates active conceptual ideation about what is being coded; the researcher can direct energy to capturing this conceptual development through memoing of thoughts as the coding progresses and patterns begin to emerge. Giving up the assurance of taping and transcribing, however, can be especially difficult for a seasoned researcher already trained and experienced in qualitative research requirements for detailed description. The impetus to shift from full coverage in data collection to field noting is also frequently discouraged by peer

review and by thesis supervisors trained in traditional qualitative methods.

Like many new to classic grounded theory, initial efforts at open coding in my own doctoral research (Holton, 2006) were heavily influenced by earlier training in qualitative research methods. As a result, 155 codes were initially generated through open coding of data collected and analysed between October 2001 and February 2002; several of these codes were highly descriptive and, in some instances, somewhat repetitive. This is not unusual at the outset of a grounded theory study where the researcher wishes to remain as open as possible to what may emerge from line-by-line coding and not run the risk of precluding or predetermining what may eventually prove to be relevant to the emerging theory. The risk of this inundation, however, is that the analyst may be unable to transcend the descriptive detail and as a result miss the true conceptual power of classic grounded theory methodology. Here, the analyst must be patient in staying with the process while striving for a higher level of abstraction in the naming of codes. Classic grounded theory's practice of memoing analytic thoughts in tandem with the coding process can facilitate this conceptual transcendence.

As I advanced my competence in conceptual coding and the constant comparison of indicators, a significantly reduced list of 57 open codes emerged from continued data collection and analysis between February 2002 and January 2004. I then collapsed several of the earlier descriptive codes into the newer conceptual codes with only 13 codes from the original list appearing among the conceptual coding list.

Of course, as a grounded theorist develops her conceptual coding skills, she can more readily dispense with the initial descriptive codes and employ conceptual-level coding from the outset of the open coding process. This takes skill in conceptualization as well as a ready arsenal of conceptual labels; both are developed over time and with continued practice (see Box 1):

> Box 1
> At the outset of fieldwork, I collected the following excerpt from one interview:
> 'One … member described the challenge of working together on a large project such as Habitat for Humanity. I got very excited, and dreamed of how amazing that would be'.

My initial coding for this excerpt was *Excited by Challenge* and *Wishes & Dreams.* This excerpt was later re-coded as *Igniting Passions* (a code that emerged as a sub-core category in my theory). In this case, *Excited by Challenge* emerged as a property of *Igniting Passions.*

Another excerpt from early data collection and open coding was, 'I want to stay connected because it revitalizes me. It jazzes me!' Initial coding for this excerpt was *Feeling Energized, Staying Connected* and the in vivo code, *It jazzes me!*; this excerpt was also later re-coded as *Igniting Passions.*

Another excerpt, 'It reminds me of the great things that are possible when people have a desire to work together and learn together'.

Initial coding was Value of Participation and Motivation to Participate; later re-coded as *Igniting Passions.*

Another excerpt, 'I loved the opportunity to be the court jester, either in a cow suit or by throwing out ideas that bordered on the absurd. And with so many of us vying for the hat with bells on it, the give and take just seemed to crank up the fun to a higher notch'.

Initial coding was Playful Participation, Assumed Role, Feeling Energized; later re-coded as Igniting Passions.

Constant Comparison and Theoretical Sampling

As the twin foundations of grounded theory, the processes of constant comparison and theoretical sampling guide the development of the emergent theory. The purpose of constant comparison is to see if the data support and continue to support emerging categories. At the same time, the process further builds and substantiates the emerging categories by defining their properties and dimensions. Constant comparison resolves 'data overwhelm' (Glaser, 2003, p.24). By alternating data collection with coding and conceptual memoing, the researcher is prevented from collecting redundant data as once a category has been saturated (i.e., no new conceptual properties or dimensions are emerging), the researcher ceases collecting additional data for that particular category. Early memoing of the emerging conceptual thoughts while actively engaged in coding and analysing enables the researcher to continuously build theoretical sensitivity. Early memoing also facilitates theoretical sampling as the researcher intuitively follows and develops conceptual ideas as they emerge through constant comparison.

The constant comparative process continues through open coding to selective coding and involves three types of comparison.

First, incidents are compared to other incidents to establish the underlying uniformity and varying conditions of generated concepts and hypotheses. Then, emerging concepts are compared to more incidents to generate new theoretical properties of the concepts and more hypotheses. The purpose here is theoretical elaboration, saturation, and densification of concepts. Finally, emergent concepts are compared to each other with the purpose of establishing the best fit between potential concepts and a set of indicators, the conceptual levels between concepts that refer to the same set of indicators and their integration (theoretical coding) into hypotheses to become theory (Glaser & Holton, 2004, para 53).

In conjunction with constant comparison, theoretical sampling is the process whereby the researcher decides what data to collect next and where to find them in order to continue to develop the theory as it emerges. As such, the process of data collection is controlled by the emerging theory. Beyond the decisions concerning initial collection of data, further collection cannot be planned in advance of the emerging theory. Instead, the researcher can only discover where next to collect data by first coding the initial data and then looking for comparison groups by which to saturate the emerging codes and their properties. By identifying emerging gaps in the theory, the researcher will be guided as to where and how to collect the next sources of data. The possibilities of multiple comparisons are infinite and so groups must be chosen according to theoretical criteria. The criteria (of theoretical purpose and relevance) are applied in the ongoing joint collection and analysis of data associated with the generation of theory. As such, they are continually tailored to fit the data and are applied judiciously at the right point and moment in the analysis. In this way, the researcher can continually adjust the control of data collection to ensure the data's relevance to the emerging theory (Glaser & Holton, 2004, para 51).

Interchangeability of Indicators

As noted above, grounded theory is based on a concept-indicator model of constant comparisons of incidents to incidents and, once a conceptual code is generated, of incidents to the emerging concept. The concept-indicator model requires concepts and their properties or dimensions to earn their relevance in the theory by systematic generation and analysis of data. This forces

the researcher into confronting similarities, differences, and degrees in consistency of meaning between indicators, generating an underlying uniformity which in turn results in a coded category and the beginnings of the properties of that category. In the comparisons of further incidents to the emerging conceptual codes, codes are sharpened to achieve best fit while further properties are generated until the concepts are confirmed and saturated (Glaser, 1978, pp.62-65).

Constantly comparing incidents and thereby generating new properties of a concept can only go so far before the researcher discovers saturation of ideas through interchangeability of indicators (incidents). This interchangeability also facilitates transferability of the theory to other substantive areas and opens the potential for the generation of formal grounded theory (Glaser, 1978) (see Box 2).

Box 2

In Holton (2006), persistent and unpredictable change in the knowledge workplace emerged early in data collection and analysis as a significant concern of the research participants. The concept, *Changing Knowledge Workplace*, was later to prove significant to the emergent theory as one of the categories related to the emergent core category. As such, I continued to theoretically sample for indicators of this category. Through constant comparison, 51 indicators of the concept were coded to achieve theoretical saturation and to provide properties and dimensions. The number of indicators per category is not as significant as the requirement to sample sufficiently to achieve theoretical saturation. The important thing is that each concept has earned relevance in relation to the theory, its relevance theoretically sampled for and sufficiently validated and its properties and dimensions identified though constant comparison and interchangeable indicators to theoretical saturation.

Core Category Emergence

As the researcher proceeds with constant comparison, a core category begins to emerge. This core variable can be any kind of theoretical code: a process, a typology, a continuum, a range, dimensions, conditions, consequences, and so forth. Its primary function is to integrate the theory and render it dense and saturated. In appearing to explain how the main concern is continually processed or resolved, the core becomes the focus of further selective data collection and coding efforts.

Charmaz (2004, 2006) discounts the relevance of the core category, suggesting that Glaser (2002) advocates the explicit assertion of a main concern by the research participants and ignores that '[t]he most important processes are tacit' (Charmaz,

2004: 982). Here Charmaz misinterprets Glaser (2002b) who actually says that the core category is discovered as it emerges through iterative coding, conceptual memoing, and theoretically sampling for further data to pursue and develop conceptual leads, ensuring that all concepts earn their way into the emerging theory. Glaser also states that the core category merits its relevance and prominence by accounting for most of the variation in processing the concern or issue that has emerged as the focus of the study and by conceptually explaining the latent pattern of social behaviour that accounts for its continual resolution. Glaser discounts Charmaz's notion of a constructivist grounded theory by claiming that:

> She uses constructivism to discount the participant's main concern, which is always relevant to ongoing resolving behaviour, in favour of the researcher's professional concern, which is most often irrelevant to behaviour in the substantive area … (Glaser, 2002, para 21).

This paper does not afford the space for an extensive exchange of the multiple perspectives on what is and is not fundamental to grounded theory. Suffice it to say that if one wishes to undertake a classic grounded theory study, then the emergence of a core category is an indisputable requirement.

It takes time and much coding and analysis to verify a core category through saturation, relevance, and workability. The criteria for establishing the core variable (category) within a grounded theory are that it is central, that it relates to as many other categories and their properties as possible, and that it accounts for a large portion of the variation in a pattern of behaviour. The core variable reoccurs frequently in the data and comes to be seen as a stable pattern that is increasingly related to other variables. It relates meaningfully and easily with other categories. It is completely variable and has a 'carry through' within the emerging theory by virtue of its relevance and explanatory power (Glaser & Holton, 2004, para 54) (see Box 3).

Box 3

In Holton (2006), three categories emerged fairly early on as of some significant concern of the participants in the study: *Changing Workplace Context, Coping with Change, Humanizing Workplace*. Through further analysis, two new categories, *Dehumanization* and *Rehumanizing,* emerged as a better fit than Humanizing Workplace.

As the analysis progressed, *Rehumanizing* appeared to account for much of the variation around knowledge worker concerns with the changing knowledge workplace and the resultant dehumanization they experienced. *Rehumanizing* would subsequently emerge as the core category of the theory.

Delimiting for Selective Coding

Selective coding begins only after the researcher has identified a potential core variable. Subsequent data collection and coding is delimited to that which is relevant to the emerging conceptual framework (the core and those categories that relate to the core). By focusing on the core and other related categories, subsequent data collection can go very quickly; merely minutes, with a few field notes to be captured and analysed. In this way, the researcher can saturate the selected categories that form the basis of the emerging theory without collecting a lot of additional material that has no relevance to the developing grounded theory. This selective data collection and analysis continues until the researcher has sufficiently elaborated and integrated the core variable, its properties, and its theoretical connections to other relevant categories.

Delimiting occurs at two levels. First, as the theory integrates, it solidifies with fewer modifications needed as the researcher compares the next incidents of a category to its properties. Later modifications are mainly about clarifying the logic of the theory and integrating elaborating details of properties into the major outline of interrelated categories. As the researcher begins to discover an underlying uniformity in the categories and properties, the theory is reformulated with a smaller set of higher-level concepts. This second level of delimiting the theory reduces the original list of categories for coding. As the theory develops, becomes reduced, and increasingly works better in ordering a mass of data, the researcher becomes committed to it. This allows for a delimiting of the original list of categories for subsequent collecting and selective coding of additional data, according to the newly established boundaries of the theory. By delimiting the focus to one category as the core variable, only those categories related to that core are now included in the theory. This list of categories, now delimited for additional selective coding, is subsequently (and continuously) delimited through theoretical saturation of each category.

Theoretical Saturation

One of the concerns often expressed by those new to grounded theory is when to stop collecting data. The answer is deceptively simple. One stops when one no longer needs to continue. The challenge is in how to recognize that the need no longer exists. Glaser (1978) describes this as the point of theoretical saturation (p. 71). As noted above, the constant comparison of interchangeable indicators in the data yields the properties and dimensions of each category, or concept. This process of constant comparison continues until no new properties or dimensions are emerging. At this point, a concept has been theoretically saturated. This 'intense property development' (Glaser, 2001, p.191) produces the conceptual density necessary to lift the theory above description and enable its integration through theoretical propositions (hypotheses) as abstract conceptual theory. 'Once a category is saturated it is not necessary to theoretically sample anymore to collect data for incident comparisons. And of course, once many interrelated categories of a GT are saturated, theoretical completeness is achieved for the particular research' (Glaser, 2001, p.192) (see Box 4).

Box 4

In Holton (2006), the core category, *Rehumanizing,* and 37 related concepts became the focus of selective data collection and coding. Continued delimiting, theoretical saturation, and conceptual integration confirmed the core category and 4 related categories as the basic social structural process of *Fluctuating Support Networks.* Additionally, 3 sub-core categories and 16 conceptual properties and dimensions of these sub-core categories were confirmed as the basic social psychological process of *Rehumanizing.* Constant comparison continued until the core and related categories were sufficiently saturated and further coding and constant comparison yielded no new conceptual ideation.

Memoing

The writing of theoretical memos is the core stage in the process of generating grounded theory. If the researcher skips this stage by going directly to sorting or writing up, after coding, she is not doing grounded theory' (Glaser, 1978, p.83).

Memos are theoretical notes about the data and the conceptual connections between categories. The process runs parallel with the coding and analysis process to capture the researcher's emergent ideation of substantive and theoretical codes and

categories. Memo writing is a continual process that helps to raise the data to a conceptual level and develop the properties of each category. Memos also guide the next steps in further data collection, coding, and analysis. They present hypotheses about connections between categories and their properties and begin the integration of these connections with clusters of other categories to generate a theory. The basic goal of memoing is to develop ideas with complete conceptual freedom. Memos are 'banked' and later sorted to facilitate the integration of the overall theory.

Memo construction differs from writing detailed description. Although typically based on description, memos raise that description to the theoretical level through the conceptual rendering of the material. Early in the process, memos arise from constant comparison of indicators to indicators, then indicators to concepts. These memos are often very brief, just a few lines. Later memos will be more extensive as they integrate the ideation of the earlier memos and will, in turn, generate new memos further raising the level of conceptualization. Sorting and writing memos generates additional memos. Memoing in conjunction with coding and analysis slows a researcher's pace, forcing a reasoning of the emerging theory as categories emerge and integrate. In this way, the researcher forestalls the premature adoption of a core category and final theoretical framework by ensuring their fit, relevance, and workability for the theory (see Box 5).

Box 5

In Holton (2006), during the constant comparison process, I had written over 400 memos capturing the conceptual and methodological development of my theory. These memos ranged in length from a few lines to several pages. The following offers a sample of the over 20 memos written in conjunction with more than 60 indicators of the category, *Igniting Passions:*

A2403 Memo 3 The Passion of Vocation August 3, 2003
Networks as keeping personal and professional passions from being eroded, depleted in the hectic, humdrum of daily organizational operations …'. Our job is our work … our practice is our passion'. Distinguishing between 'practice' and 'work'—between 'vocation' and 'job'.

A2403 Memo 6 Passionate Learning August 3, 2003
'really start to learn when they find a passion for a subject and then make a real connection to other learners and real time practitioners'. Individual passion for learning is stimulated and reinforced in community.

A703 Memo 11 Passion, Resistance & Bonding January 5, 2004

Re-reading field notes from interview with A, noted the many references to passion; in particular, the connection between passion and bonding of network members. Appears that the common passion that brings network members together—part of the likening that creates a network—is also the 'glue' that bonds network members.

She goes on to describe the 'passionate few' as bonding due to the resistance they encounter from the formal system—'the resistance serves as a way to separate out those who really have a passion to keep working' … So … passion creates likening; resistance creates bonding and reinforces passions … a cyclic process that sustains member engagement in fluctuating networks.

Memo F 1504-7 Igniting Passions February 15, 2004
Passions are ignited by challenge—the 'against all odds' syndrome—finding mutual commitment to a goal that others consider impossible or crazy. Setting themselves apart from the 'masses', the ordinary—taking on a challenge and making it work—high achievement orientation—success is sweeter when shared. Believing in the impossible and then making it happen. (Field Interview D 502)

Memo F 1504-9 Igniting Passions February 15, 2004
There's a charge in being challenged and being creative in solving an issue, a problem that ignites passionate engagement within a network—draws members in. (Field Interview D 502)

Memo F 1904-6 Igniting Passions February 19, 2004
Passions are not always positive—they can also involved spirited outbursts of anger. This is particularly the case when the core group of a network have developed such a close group identity that it compromises their relationship with others in the external environment—insularity leading to intolerance—impacts upon ability of the network to function within the larger external environment of the formal organization—interactions become personalized and highly emotional—core becomes segregated—trust erodes and threatens sustainability … network members may limit/reduce their participation if they feel it jeopardizes their position within the formal organization—cannot risk the consequences. (Field Interview D 502)

Memo A 504-13   Igniting Passions April 5, 2004
There's a strong desire to continue to network once individual passions have been ignited. Passions are fueled by the desire to continue to experience the energy and synergy that result from mutual engagement—to work and learn and laugh together. There's a strong sense of fun, of pushing the envelope. The desire to continue to move the network forward creates its own sense of excitement and fuels a passionate belief in the ability to make a difference. (Field Interview O 290, O 3101-1, N 1201, O 3001)

Theoretical Coding

Conceptual elaboration concludes when the relationships among individually elaborated concepts emerge through the identification and use of appropriate theoretical codes to achieve an integrated theoretical framework for the overall grounded theory. Theoretical codes conceptualize how the substantive codes may relate to each other as hypotheses to be integrated into the theory. They help the analyst maintain the conceptual level in writing about concepts and their interrelations. Developing theoretical sensitivity to a wide range of integrating codes (processes, models, etc.) as used across a wide range of disciplines enhances a researcher's ability to see their emergent fit to a developing theory. Reading widely opens a researcher to serendipitous discovery of new theoretical codes from other disciplines. Latent patterns abound in social research as in nature; what patterns out in biology, for instance, may well conceptually pattern in sociology, in business, or in education. The more open one is to recognizing the larger integrative patterns around us, the more one can exploit their imagery in proposing theories of social behaviour (Glaser, 2005).

The researcher who does not reach outside extant theory for theoretical coding possibilities runs the risk of producing adequate but rather mundane conceptual theory. Such theory makes a limited contribution to knowledge and, although certainly preferable to purely conjectured theory, it will lack the impact that the creative emergence of a novel or non-traditional theoretical code may offer. The underlying imperative, however, is that the fit must be emergent and not imposed. To earn its relevance as a theoretical integrator of core and related variables in a classic grounded theory study, a theoretical code must go beyond spurious association. No matter how intellectually seductive, fashionable, or discipline-dictated a theoretical code may be, to cross the line from theoretical exploration to forced integration with a preconceived theoretical model undermines the generative nature of grounded theory.

Theoretical Integration through Hand Sorting of Memos

Theoretical sorting of the memos is the key to formulating the theory for presentation or writing. Sorted memos generate the emergent theoretical outline, or conceptual framework, for the full articulation of a grounded theory through an integrated set of hypotheses. The researcher's memos, once sorted and fully

integrated, become the outline for presentation of the theory's publication.

This theoretical sorting is based on theoretical codes. As the researcher sees similarities, connections, and underlying uniformities, the theoretical decision about the precise location of a particular memo is based on the theoretical coding of the data grounding the idea. Facilitating the emergence of relevant theoretical codes requires close attention to the ideas memoed, submersion at the conceptual level, a balance of logic and creativity, openness to the unexpected, and confidence in following what emerges regardless of how counter-rational it may seem to extant theoretical perspectives.

Thus, rich, multi-relation, multivariate theory is generated through sorting. If the researcher omits sorting, the theory will be linear, thin, and less than fully integrated. Without sorting, a theory lacks the internal integration of connections among many categories. With sorting, data and ideas are theoretically ordered. This sorting is conceptual sorting, not data sorting. Sorting provides theoretical completeness and generates more memos (often on higher conceptual levels), furthering and condensing the theory. It integrates the relevant literature into the theory, sorting it with the memos. The researcher soon sees where each concept fits and works within the theory, its relevance, and how it will carry forward in the cumulative development of the theory. Sorting prevents over-conceptualization and pre-conceptualization, since these excesses fall away as the researcher zeros in on the most parsimonious set of integrated concepts (Glaser & Holton, 2004, para 69-70).

In classic grounded theory, theoretical codes are not selected and imposed on data as a preconceived theoretical framework. To do so is to risk logical elaboration. Instead, theoretical sorting of memos forces the researcher to theoretically discriminate as to where each memoed idea fits in the emerging theory. Failing to recognize the essential requirement of hand sorting is, however, common in accounts of the methodology. Partington (2002) emphasizes the importance of avoiding a premature closure of the analysis and the need to press on in the search for negative cases in the data but makes no reference to careful hand sorting of memos for emergent integration of the theory. Locke (2001) and Goulding (2002) also overlook the importance of hand sorting conceptual memos.

While Charmaz (2006) provides a lengthy discourse on sorting, she seems to suggest that rather than allowing for the preconscious emergence of conceptual linkages through the often tedious hand sorting and re-sorting of memos, she advocates instead trying on various theoretical codes for possible fit; if not the basic social process, then perhaps Clarke's (2005) situational mapping or Strauss and Corbin's (1990, 1998) conditional matrix. Here again, we see the need to know in advance rather than thoughtful sorting of memos for emergent fit resulting in an overall conceptual integration with parsimony and scope (Glaser & Strauss, 1967, p.110) (see Box 6).

Box 6

In Holton (2006), having achieved theoretical saturation of my core concept and related categories, I proceeded to review, hand sort, and integrate those memos related to the core, its properties, and related categories. As I began to sort memos and look for relationships between the various concepts, theoretical codes began to emerge as an abstract modelling of the latent structural patterns that integrated and explained the emerging theory. The first indication of emergent theoretical codes was memoed in an E-mail to Dr. Glaser, December 2003:

 'Rehumanizing can be viewed as a structural condition affecting the nature of fluctuating networks of professional concern. These networks have always been there in the workplace as they are inherent to social organization generally—but today's increasingly compressed and dehumanized work environments (changing workplace context) have brought the need for rehumanizing to the fore as a means of addressing the main concern of those involved—coping with change thereby magnifying the BSPP [basic social psychological process] of rehumanizing as a structural condition of the BSSP of fluctuating networks. As such, the BSSP [basic social structural process] of fluctuating networks of professional concern has taken on the properties of the BSPP of rehumanizing including authenticity, depth/meaning, respect, safety, healing … As a preliminary suggestion, the stages in the BSPP of rehumanizing may be finding, likening, igniting passions, kindred sharing, experimenting, bonding, sustaining. Some of these may be combined as research progresses; new ones may be identified … the structural process (of fluctuating networks) is of significance because it explains the organization of behaviour (as emergent informal organization) to address the main concern of the participants—coping with change within the workplace—through a BSPP (rehumanizing) as antidote to the dehumanizing impact of traditional formal organizational structures. This is starting to feel 'right' for me—things are fitting into place and I can now see an overall conceptual framework around which to begin building the theory' (J. Holton, personal communication, December 29, 2003) While continuing to consider basic social process as an appropriate theoretical code through which to integrate my emerging theory, I remained open to the emergence of other theoretical codes as I continued to hand sort and integrate memos. A final integration of the theory occurred in March 2004 with the emergence of an additional theoretical code—amplifying causal looping.

The concept *Igniting Passions* (as earlier illustrated in this paper) was to emerge in a pivotal position as the catalytic middle stage, between the sub-core processes of *Finding & Likening* and *Mutual Engagement* (both amplifying causal loops), within the basic social psychological process of *Rehumanizing.*

Analytic Rules for Conceptual Integration

There are several fundamental analytic rules that address issues regarding the sorting, carrying forward, and integration of concepts. These rules form the basis for the conceptual integration, organization, and writing up of the theory. Usually, the theory is presented as a conceptually abstract narrative that articulates each significant concept and then, through the articulation of theoretical propositions, the relationships between these concepts. Here I refer the reader to Glaser (1978, pp.120-127; Glaser & Holton, 2004) for further elaboration.

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