

ABDUCTIVE ANALYSIS



THEORIZING QUALITATIVE RESEARCH



IDDO TAVORY AND STEFAN TIMMERMANS



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Abductive Analysis

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INTRODUCTION: TOWARD ABDUCTIVE ANALYSIS

Qualitative researchers navigate treacherous waters. On the starboard side lurks an overly descriptive account. The researcher gathers detailed narratives of people doing things, orders them according to broad themes, and lets the data speak for itself. Manuscripts by authors who succumb to this temptation are easily recognizable by long data excerpts interspersed with a few summary sentences that capture the gist of what the reader should pay attention to. Often the rudimentary taxonomy is preceded by a quick, almost embarrassed, venture into contemporary theory that has little relevance to the data presented. Such manuscripts may be highly readable, if only because social worlds we know little about are inherently interesting. But they mostly satisfy the voyeur in us. To the extent that we get anything theoretically out of the text, it fits the Balinese adage "Other fields, other grasshoppers."¹

In all too many circumstances, such researchers are so unsure of how to think theoretically about their work that their research does not reach publication. Archival materials, painstakingly gathered interview tapes, and hundreds of pages of observations are diligently coded and then tucked away in boxes. Computer files with neatly listed transcripts and field notes are dutifully copied whenever the researcher upgrades computers, but are no longer accessed. The research project is left unfinished, and the researcher hangs on to the faint hope that a future self, colleague, or student will take it on.

Equally problematic is the danger on the port side. The researcher aims to fit ideas into a predetermined theoretical account, usually developed by some *en vogue* theorist. Here the research serves either as a contemporary illustration of or, at best, a minimal twist on the account the great theorist has set out. When it is done well, there is an art to such writing, which integrates data snippets with dense theoretical exegesis. Yet in many cases, researchers achieve these theorizations at the expense of paying much attention to their own observations. These researchers are so wedded to a conceptual framework that all they do is repeat or add a minor nuance to their

preferred theory. The frameworks are powerful currents in heavily travelled shipping lanes, in which every attempt at a different route ends in a drift back toward a well-known destination.

Following these currents may facilitate writing and publication, as they are the path of least resistance. But they also act as powerful blinders—they push us to ignore many of the surprises that emerge during fieldwork, to dismiss as noise any observation that does not fit predetermined conceptual categories. Reading such work, we often squirm in discomfort. The data is thin and doesn't quite fit the theorization. We have a distinct feeling that the observations were a bothersome hiccup on the way to a generalization. Sometimes we wonder why the authors even took the trouble to do the empirical work; it seems they knew what they would find, and the theory seems to have said it all before.

Both of these approaches fall short of the promise of qualitative research. A better course would be to develop a double story: one part empirical observations of a social world, the other part a set of theoretical propositions. In good research, these two parts of the story not only intertwine but amplify each other. The theoretical account allows us to see things in the empirical that we would gloss over. The empirical description, in turn, pushes the theorization in unexpected directions.

Balancing theory and observations is a particularly vexing problem in qualitative work. The starting costs are relatively low—a trip to the archives, a small transcription budget, or simply time to do observations. The venture seems to be immediately rewarding. A mountain of data quickly grows, allowing the researcher to describe the complexity of a particular social world. But as the data piles up, the researcher's attempt to theorize it requires stripping away some empirical complexity.² The messiness of social life that makes qualitative research so attractive renders the construction of theories difficult. Theories emerge out of the double movement of reducing data and extending it to other sites, other phenomena, and other potential research subjects. At some point the qualitative researcher realizes with frustration that conceptualization and theory construction requires letting go of parts of the empirical story. Descriptive and pretheorized accounts are intended as strategies to assuage the anxiety and even guilt associated with such a reduction of the richness of observation. And yet the pitfalls of these accounts only compound such anxieties.

Although this uneasy relationship among observations, method, and theory construction remains one of the key dilemmas facing any qualitative researcher, relatively few resources are available for addressing it. Most writers on the theory of method aim to shore up the qualitative researcher's methodological credentials, rather than to think through the relationship

among data, method, and theory. With the exceptions of the inductive and deductive approaches we outline below, the best books taking this problem as their starting point are organized as a set of heuristics, or tricks of the trade that researchers can use as a way to get themselves out of an intellectual rut in the process of their research.³

The reason for this neglect is historical. In the mid- and late twentieth century, qualitative research was juxtaposed to quantitative research, which had made great methodological strides in its sophistication and reach. In response to their increasing marginalization, qualitative researchers (at least in American academia) spent much of their intellectual energy boosting their methodological credentials. After all, stripped of its methodological dress-up, participant observation looks a lot like hanging out with people, and interviewing like a way to say the researchers had a few conversations. How can such mundane methods compete with inferences based on statistical analysis? The response beginning in the 1960s was to formalize observation and interviewing as methods. The code word for early attempts at methodologizing qualitative research was *rigorous*. In order to buttress their position, researchers formalized qualitative methods, articulating specific evaluation criteria, methodological steps, and epistemological positions. Thus we saw the emergence of a naturalistic paradigm in contrast to the positivism associated with quantitative methods and natural sciences,⁴ and a focus on coding technologies in qualitative research.⁵

In recent years, the marginalization of qualitative research has abated somewhat,⁶ and the gravity of methodological scholarship has shifted toward internal discussions about the merit and quality of qualitative research. Across disciplines, researchers have discussed the implications of postmodernism for qualitative researchers' grounds for representation and authority,⁷ but have also given more attention to the relation between theory and observation. Research in both urban ethnography and cultural anthropology has come under fire in heated published debates that have a strong moral streak.⁸ One fundamental issue running through these debates is precisely this relation between observation and theorization.

The relation among theory, observation, and method thus remains an Achilles heel of qualitative research. Yet the circumstances are different from those of the 1960s, when the rigor wave started rolling in. The key challenge is not to justify the scientific character of qualitative methodology or to provide quick heuristic fixes, but to rethink what it means to collect and interpret data with an eye on theory construction.

Of course, both inductive and more deductive approaches to qualitative research have already sketched pathways to theory construction. The current standard approach to theoretical conceptualization is grounded theory, an

inductive data analysis methodology developed in the late 1960s. Although we remain sympathetic to the methodological steps developed by grounded theorists, and although we adopt some of them, we—and many others—are convinced that the inductive legacy of grounded theory has thwarted rather than aided theory construction. Time and time again, practitioners find themselves stranded on the shores of tedious description, and precious few novel theoretical accounts have come out of the grounded theory tradition.

An alternative approach to the relationship between theorization and observation is a family of deductive methods, particularly the extended case method,⁹ which has gained momentum because it has assured researchers that it will deliver them to the promised land of theoretical sophistication and moral relevance. Yet whereas grounded theory flounders in endless description and minimal conceptualization, this more deductive approach often finds itself stranded on the opposite shore. Researchers design their studies around a set of comparisons that make sense only under *a priori* theoretical assumptions, and they often find that their comparisons are thin, uninteresting, and unsuitable to the experiences they encounter. So they tend to ignore their data or cut it up in little snippets, then focus on reiterating (or, at best, slightly modifying) an existing theory.

The pitfalls of both inductive and deductive approaches are not incidental. Although practitioners in both camps often admit in private conversations that their actual practice is more flexible than their methodological admonitions, their conception of the relation between theory and observation seeps into their research design and the writings they produce. The theory of method embedded in these approaches constitutes a set of heuristic maps. And it is on this account that they so often fail.¹⁰

Abductive Analysis: The Research Context

This book aims to serve as an alternative navigational map for constructing empirically based theorizations. It provides a way to think about research, methods, and theories that nurtures theory construction without locking it into predefined conceptual boxes. We offer an account of the relationship among observation, theory, and method that is grounded in pragmatist philosophy. Inspired by early American pragmatism, and especially the work of Charles S. Peirce, we view research as recursively moving back and forth between a set of observations and a theoretical generalization. The act of analyzing data requires that we pitch our observations in relation to other potential cases, both within and outside of our field. As these potential cases are then checked against other experiences, we amend them and generalize anew, thereby creating more potentials, *ad infinitum*. The fundamental

question organizing all data analysis—"What is this data a case of?"—is a semiotic question: a question of the ongoing construction of meaning. Theorization in a pragmatist key is a continuous movement between potentials, actualizations, and generalizations. This movement back and forth between theoretical generalization and specific data brimming with potential participates in an ongoing intellectual conversation.¹¹

The core idea of Peirce's pragmatism that we develop is the notion of abduction, which inspires the name for our approach: abductive analysis. For now it is sufficient to understand abduction in relationship to induction and deduction. Induction refers to the process of collecting new data and using it to strengthen or problematize well-established theories. Deduction, on the other hand, suggests a hypothesis about specific observations that is already based on existing theory. As Peirce noted, neither induction nor deduction is particularly creative, because neither leads to new theories. Theory generation requires us to move away from our preconceived notions and to create new narratives about the phenomenon we are trying to explain. Abduction occurs when we encounter observations that do not neatly fit existing theories and we find ourselves speculating about what the data plausibly could be a case of. Abduction thus refers to a creative inferential process aimed at producing new hypotheses and theories based on surprising research evidence. Abduction produces a new hypothesis for which we then need to gather more observations.

The challenge in appropriating a pragmatist approach and Peirce's notion of abduction for qualitative data analysis is to translate what may be seen as a vague prescription—"Be creative!"—into research practice and design. How do we create an environment conducive to the discovery and explanation of unexpected findings? We begin the book by stressing two aspects of this challenge: the role of in-depth familiarity with a broad variety of existing theories and the role of close attention to methodological steps that help us notice observations and draw out conceptual dimensions.

Although this may seem a pretty commonsense way to start thinking, these prerequisites constitute a rupture with existing approaches to data analysis. In-depth knowledge of a broad variety of theories breaks with the inductive approach of grounded theory, which privileges the emergence of theoretical insights out of data that are mythically unencumbered with theoretical preconceptions.¹² It also, more surprisingly, breaks with deductive approaches that seem to assume that we come to our study armed with only one theory at a time. And although deductive researchers often do good methodological work, they are so wedded to the idea that we come to the field already theorized that they sideline the importance of methodological steps to theory construction.

Believing that one can construct theory within a research context presumes a specific epistemological position on research and theory. Drawing on the work of Hans Reichenbach and Karl Popper, much twentieth-century philosophy of science created a firewall between the context of discovery and the context of justification of scientific theories. These philosophers did not delve too deeply into the discovery of theories, relegating such discovery to a side project for “empirical psychology.”¹³ Instead, they drew attention to the logic of justification. How do we know that a scientific theory is true, or at least “true until further notice,” once it has been formulated? Much of the debate between Karl Popper and the logical positivists, for example, revolved around these demarcation criteria in the context of justification. Are theories verifiable? Or, on the contrary, is a good scientific theory one that can be empirically falsified?

One of Peirce’s important contributions to the philosophy of science is his refusal of the distinction between discovery and justification. Instead, Peirce argued that creativity is inherent in the research process. If his semiotics and notion of abduction are to be taken seriously, any division of labor between creativity and the rigorous checking of theories against observations is empirically wrong: researchers theorize on the go. The discovery-justification division is also analytically wrong. When scientific work is artificially divided into these two realms, theorization becomes mystical: a flash of genius that defies explanation. And by extension it becomes something that great others can do, but not us mortals. Letting go of this myth allows us to appreciate that there is a unified context of research within which discovery and justification are inseparable moments.

This view also implies a specific position about the role of theories: without reducing theorization to a mechanized process, it suggests that theory production is a craft, something that we can become better at by being part of a community. Notions of evidence and of generalization are tied to methodological standards and available theorizations located in an intellectual social world—whether the world is that of sociology, nursing, political science, anthropology, or organizational theory, or crosses traditional academic disciplines.¹⁴ The craft of theorizing in the research act is then to learn how to solve a practical problem: making sense of data.

The Thrill of Qualitative Research

The pragmatist approach we develop has important advantages. Abductive analysis provides us with a coherent epistemological position that is centered on the relationship among theory, method, and observation. Because

epistemology infuses research design, this approach helps us craft stronger research. Spelling out the general position, abductive analysis provides purchase on specific aspects of the research context that are often mystified in qualitative research. Abductive analysis thus outlines the construction of causal accounts and their limitations; the relation among forms of variation, observation, and theorization; the uneasy relationship between explanations and categories used within the field as compared to the categories used by social scientists; and much more. Thus our approach provides guidelines for the construction and evaluation of key steps in the research act.

A pragmatist approach also helps us to address an existential question: Why do we do qualitative research at all? We began writing this book for many reasons, but one key impetus was that we felt that current approaches to the relation among theory, method, and observations often sap the joy from social research. There are many warrants for conducting qualitative research—from the aspiration to shape public opinion, to a desire to capture and document a fleeting form of social life, to an interest in crafting a theory that transcends time and place, to simple voyeurism. There are also many ways to go about theorizing. Whatever the warrant and whatever the theoretical resources the researchers draw upon, one of the seductions of qualitative research is the sense of intellectual adventure.

The thrill of research resides precisely in the way in which we muddle through and puzzle out aspects of our research project.¹⁵ We come in with possible ideas, and we quickly become disillusioned with our preconceptions and fascinated by all the ways in which the field operates “all wrong.” We return to the theory, and back to the field, and slowly piece together a theoretical account that can explain our observations, potentially illuminating a broader point that we couldn’t have even guessed at when we began our work. Time and again, we have discovered that the observations and patterns we find in our research projects surpass anything we could have imagined about the field, and that the theorization we end up with is more interesting than what we could have dreamed up within the convenient confines of our office.

Whatever other reasons motivate our research, this excitement allows us to stick to it, to spend months and years poring over observations and looking for diverse sources of inspiration through which to theorize it. This excitement does not emerge automatically. To experience it, we must organize the research project in particular ways. Neither the reification of methods in grounded theory nor a focus on one’s favorite theory in extended case method does justice to this excitement. We have spoken to grounded theory

practitioners who were dutifully coding mountains of data with no end in sight, and deductive researchers who were mildly annoyed by the fact that it took so long to get interviewees to come out with “the right quote.” Abductive analysis is an attempt to both do justice to the process of theorizing and to revive the excitement of discovery in qualitative work.

1: THE ALTERNATIVES

Where does a researcher turn to analyze qualitative data? Countless how-to books and software programs adapt qualitative data analysis to specific academic disciplines.¹ Virtually all of those tools attempt to lead to a thematic analysis through grounded theory methodology. Not surprisingly, the majority of these books and programs struggle with the inductivist underpinnings of grounded theory. They accept the idea that qualitative researchers should approach their research endeavors with little theoretical preparation, or at least set aside all preconceived notions and build theory from the ground up through brainstorming sessions with small data snippets. The books then offer various methodological heuristics to stimulate theory “discovery.”

Adopting methodological steps without a coherent epistemological stance, however, weakens the methodological potential for theory innovation. The problem is not with the specific methodological precepts of coding and memo writing that these methodological intermediaries develop, but with the way the intermediaries are anchored into a more general inductive view of social science, and how such a position then ends up structuring researchers’ approach and research design. We thus need to come to terms with the role of induction as a logic of inquiry before we see how methodology operates in a framework of theory construction.

The alternative guidance for theory construction comes from deductive approaches to data analysis. The researcher starts with a strong preexisting theory and aims to modify this theory in light of the research data. The closest manifestation of deductive qualitative research in social science is the extended case method. In spite of its name, this approach is relatively quiet on the nitty-gritty of qualitative research and instead delineates analytical steps to move from observations to broader structural social forces in order to extend one’s favorite theory. As we outlined in the introduction, such an approach risks shoehorning ill-fitting data—again affecting the re-

search design that researchers opt for and the theorizations they produce. As with inductive approaches, the problem lies with the logic of inquiry.

This chapter thus takes a critical look at both inductive and deductive approaches to qualitative research, focusing on the ways in which these approaches emerged, on their analytic shortcomings and strengths, and on the way they structure practitioners' research design.

Grounded Theory as Mainstream Qualitative Data Analysis

Barney Glaser and Anselm Strauss's *The Discovery of Grounded Theory* has become not only the gold standard for qualitative data analysis but one of the most cited books in the social sciences.² Grounded theory has spread across sociology, nursing and medical research, computer and information sciences, education, law, management, and anthropology. Its coding schemes and heuristic principles have been incorporated into the most widely used qualitative data analysis software programs.³ Grounded theory has turned into a paradigmatic set of assumptions proclaiming how qualitative analysis should be done; researchers offer an almost obligatory nod to it in the methods section of qualitative research papers whether or not they actually used it.

Historically, grounded theory was located between two competing traditions of mid-century American sociology. Influenced by Paul Lazarsfeld and Robert Merton at Columbia, Glaser emphasized the need for rigorously constructed middle-range theories based on explicit, transparent coding procedures. As a graduate of the University of Chicago's sociology department working with Herbert Blumer and inspired by Robert Park, Strauss stressed the need to capture fundamental social psychological processes as they unfold.⁴

The approach followed Glaser and Strauss's ethnographic study of death and dying in the San Francisco Bay area. In 1958, researchers had declared the sociology of death and dying neglected and barren,⁵ but this situation changed in the early 1960s when Glaser and Strauss conducted a study of interactions between dying patients and health care providers in six Bay area hospitals. The study was groundbreaking for substantive and methodological reasons, and their development of "awareness contexts"—patterns of knowledge-relationship among doctors, patients, and families—captured the *Zeitgeist* by confirming that institutionalized dying led to widespread alienation and isolation. At a time when euphemisms, embellishments, or lies were routinely conveyed to patients about the severity or nature of their diagnosis and prognosis,⁶ Glaser and Strauss documented that terminally ill patients often went to great lengths to figure out their status, only to be

confronted by a wall of silence from health care providers and complicit family members.⁷

Their analysis, along with Kübler-Ross's⁸ influential writings on grief, galvanized a social movement aimed at humanizing dying that took the form of various hospice and palliative care initiatives. Besides crystallizing late modern unease with the medicalization of the dying process, their books⁹ aided the emergence of the influential labeling theory, produced a collection of concepts that became part of the sociological canon, and constituted a prime example of the application of a systematic qualitative methodology. Grounded theory, then, was initially intended as a methodological explanation of how the dying studies were conducted, and allegedly reflected Glaser and Strauss's ongoing research experience.¹⁰

Glaser and Strauss also wrote polemically against what they considered the increasing devaluation of qualitative research. They originally aimed to justify qualitative research against a triple marginalization: theoretical marginalization by functionalist theorists spinning grand theories and looking for straightforward empirical verification; methodological marginalization in which qualitative research was relegated to the production of hypotheses to be tested by statistical quantitative methodologies; and a marginalization within the field of qualitative analysis: ethnographic researchers were said to conduct unsystematic, atheoretical research.

Glaser and Strauss expressed a growing disenchantment with functionalism and survey research.¹¹ Grounded theory should thus be read alongside other books that came out in the late 1960s: Blumer's manifesto for symbolic interactionism, Peter Berger and Thomas Luckmann's treatise on the social construction of reality, Harold Garfinkel's importation of Schutzian phenomenology into ethnomethodology, and Thomas Kuhn's influential account of scientific revolutions.¹² Unlike these authors, however, Glaser and Strauss offered a realist methodology that aimed to regain qualitative research's legitimacy, ignoring some of the constructivist thrust of the times.

Thus Glaser and Strauss proposed that social scientists build theory "from the ground up" through systematic conceptualization and constant comparisons with similar and distinct research areas. The positivistic tenor is apparent in the privileged position they saw for a disinterested social science researcher and in the emphasis on an inductive methodology uncontaminated by preexisting theories. They advanced a set of methodological principles including theoretical sampling, theoretical saturation, open coding, and memo writing to guarantee that theoretical claims were supported with data. In essence, grounded theory presented an analytical choreography with a deep immersion in data and then a transcendence of this

data to reach higher levels of abstraction and generalization. If performed well, the resulting dance emerged from lived experiences, actions, observations, and conversations while researchers simultaneously engaged in conceptually dense and theoretically rich writing.

A keyword search in databases of social science publications suggests that grounded theory did not become the dominant qualitative methodology until the late 1980s, when Strauss published *Qualitative Analysis for Social Scientists*¹³ and he and Juliet Corbin issued the user-friendly *Basics of Qualitative Research*.¹⁴ As the titles suggest, both books were foremost methodology books. They pushed the formalization of qualitative methods hinted at in *The Discovery of Grounded Theory* to new levels with research paradigms, analytical matrices, different levels of coding, and systematic memo writing. Key methodological ideas such as theoretical sampling and theoretical saturation also gained prominence. Previously, grounded theory methodological practice had been spread largely through apprenticeship and workshops in San Francisco; these books made it possible for researchers not directly trained by Glaser or Strauss to practice grounded theory. The methods also diffused by way of incorporation in data analysis software programs—especially ATLAS.ti, which was explicitly modeled after a grounded theory analysis, but also other data analysis programs, such as NVivo, Transana, and MAXQDA, which also facilitate and speed up the different steps of coding and memo writing.¹⁵

In the decades since publication of the original book, the founders of grounded theory have emphasized different epistemological characteristics, and the approach has splintered into a “classic” version associated with Glaser and an “interactionist” variant developed by Strauss and Corbin. The classic version highlights the goal of inductively developing formal theories and revels in the positivist heritage of grounded theory. The key issue, according to Glaser in an acerbic rebuttal to Strauss and Corbin, is to let “categories and their properties emerge which fit and work.”¹⁶ The interactionist variant highlights data analysis as interpretative work and pays more attention to the position of the researcher in analyzing data. Kathy Charmaz¹⁷ advanced a “social constructivist” interpretation of grounded theory, and Adele Clarke¹⁸ adapted grounded theory in light of postmodern critiques of qualitative methodology.¹⁹ Among researchers, the variation is even more pronounced. Grounded theory has been used to label any research endeavor that involves coding, any form of qualitative data analysis, and any kind of theory construction. When researchers claim that their work is grounded, it often has little to do with the original methodological precepts; they often use grounded theory simply as a placeholder for methodological legitimacy when writing the methods section.²⁰