Grounded Theory as Scientific Method:
Haig-Inspired Reflections on Educational Research Methodology

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HAIG'S THESIS

In brief, Haig's thesis is that grounded theory is more than the naive Baconian induction some critics charge it to be. Nevertheless, shortfalls do plague grounded theory that recent developments in scientific realism can correct. Ultimately, Haig argues that his reconstruction of grounded theory blurs traditional boundaries between social and scientific methods.[1]

GROUNDED THEORY BACKGROUND:
BREAK WITH TRADITIONAL SOCIAL SCIENCE METHODOLOGY

As this study bridges at least three fields (social science research, philosophy of science, and educational theory), it may be useful, by way of introduction, to elaborate the theoretical landscape that spawned the emergence of grounded theory during the 1960s. During the 1950s and 1960s, social science research was dominated by hypothetico-deductive theory. In particular, the "great men" theories of Weber, Durkheim, Cooley, Mead, and others occupied a new generation of scholars whose work focused on testing them. In *The Discovery of Grounded Theory: Strategies for Qualitative Research*,[2] Glaser and Strauss (referred to hereafter as GS) contrasted grounded theory with logico-deductive theory to argue that the prevailing emphasis on theory testing neglected the process of theory generation. Another shortfall of social science research in this period was its theory-practice connections. These had grown more tentative as dominant positivist theories became more removed from the social phenomena that they were supposed to explain. Grounded theory, a reaction against this positivist trend, was part of the humanist attempt to tie social science data more closely to the beliefs and concerns of participants so that social-science practitioners would find in theory a more congenial guide to the problems of practice.[3]

HAIG'S RECONSTRUCTION OF GROUNDED THEORY

Having set this much in place, let us return to Professor Haig's project. In his paper, *Grounded Theory as Scientific Method,* Haig wants to respond to some criticisms of grounded theory. As I understand him, he also sets out to clarify GS on several philosophical points. Haig then describes the lines along which grounded theory should move if it is to overcome these shortfalls. I take Haig to have made five modifications of Strauss and Glaser's grounded theory which I briefly characterize below:

> 1. Naive Baconian Induction. Haig begins his defense of GS by shielding them from the accusation that grounded theory is naive Baconian induction. Quoting GS, Haig points out that the grounded theory researcher begins work, not as a tabula rasa, but with an "orienting theory" that is constantly adjusted as new categories and relationships emerge from interview data. Haig thus confirms that as early as the sixties, GS held to the philosophy-of-science view that observation is theory-laden.

2. Abduction vs. Induction. Having laid to rest the claim that grounded theory is naive empiricism, Haig next distinguishes between abduction and induction as two types of inference. In contrast to inductive inference, the abductive generation of theory occurs by drawing inferences about "unobservables," or what Haig calls phenomena (not data). In making this distinction, Haig draws upon Charles Peirce's work on scientific logic and method to relate the constant comparative method of GS to Peirce's abductive explanatory inferentialism (AEI).

3. Data vs. Phenomena. To further clarify the constant comparative method, Haig points out that properly conceived, grounded theory ought to be grounded in phenomena, not in data (as GS suggest). In other words, according to Haig, data provide the evidence for the phenomena (theoretical categories) which social science researchers investigate. Data are observable; phenomena typically are not. What are the criteria for establishing the existence of phenomena? According to Haig, "reliability of data forms the basis for claiming that phenomena exist." However, while reliability is the basis for justifying claims about phenomena, judgments about explanatory coherence are the appropriate grounds for theory acceptance." This leads Haig to his discussion of theory appraisal and what philosophers call "inference to the best explanation." In discussing theory appraisal, Haig goes beyond GS's discussion of theory construction to theory verification.

4. Problem-Centered Method. Haig reminds us that research problems are initially *ill-structured*, and that the "basic task of scientific inquiry is to better structure our research problems by building in the various required constraints as our research proceeds." As I understand them, GS intend the constant comparative method to achieve just what Haig advocates here. There are four stages included in the comparative method: (1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory.[4] First, the analyst codes each datum into as many categories of analysis as possible. As categories emerge, the analyst begins thinking in terms of the theoretical properties of the category: its dimensions, its relationship to other categories, and the conditions under which it is pronounced or minimized. This process includes a continual returning to the data until the categories are theoretically saturated. The theory is continually delimited as a smaller set of higher level concepts emerges. Finally, when the researcher is satisfied that the theory is satisfactorily integrated, the theory is presented either in a discussion form or as a set of propositions.

Theoretical sampling is the process of collecting data for comparative analysis, and is especially intended to facilitate the generation of theory. The emerging theory enables the researcher to select comparison groups on the basis of their theoretical relevance. The critical question in theoretical sampling is: To what group does one next turn for furthering the development of emerging categories? The researcher is throughout an active sampler of theoretically relevant data as s/he identifies the central variables of the emerging theory. This briefly is what I understand to be the constant comparative method put forward by GS -- a systematic process for generating better structured problems and high content theories.

5. Theory Generation vs. Theory Appraisal. As I have said, Haig goes beyond GS when he discusses theory appraisal. In this sense, we may take Haig to have constructed a bonafide new theory. Specifically, he employs AEI method and Thagard's recent work to characterize theory testing to be essentially a matter of "inference to the best explanation," that is, the case when a theory explains a greater range of facts than its rivals.

WHAT IS THE SIGNIFICANCE OF HAIG'S RECONSTRUCTION OF GROUNDED THEORY FOR EDUCATIONAL RESEARCH?

In responding to Professor Haig, I am tempted to ask (1) whether his interpretation of GS is accurate, and (2) whether his reconstruction is indeed a "new" theory. Engaging in a point-by-point

refutation would, however, divert attention from the rich implications of his work for the philosophy of educational research. Rather than challenge Haig in this way, let us use his work to reflect upon recent tensions in the research literature on effective teaching.

Grounded theory is a relatively new phenomenon in educational research, especially in studies of classroom teaching. The reasons behind its emergence in education are reminiscent of its rise in social science during the 1960s. As Shulman[5] details in his definitive review for the *Handbook of Research on Teaching*, two fundamentally different views of teaching currently drive research on teaching. On the positivist (or process-product) side, teaching is viewed as a "science in search of laws." On the interpretive (or grounded theory) side, teaching is viewed as an "exercise of interpretation in search of meanings."

These two views of teaching derive from early models of the teaching-learning process in which the cognitive and affective internal states of both teacher and students were given equal weight with the observable actions of each. As the field progressed, interest in the cognitive and affective states that mediate action waned (Figure 1). Process-product studies of teaching established an alternative microcriterion of teacher effectiveness in students' achievement-test performance, so that empirical associations like high academic achievement and the use of ordered turns in first-grade classrooms came to guide teaching practice. In time, educators, like their social-science counterparts, found process-product (postivitist) assumptions to be inadequate guides for teaching practice. Too often teacher behaviors did not produce expected student outcomes.

FIGURE 1: Process-Product Research
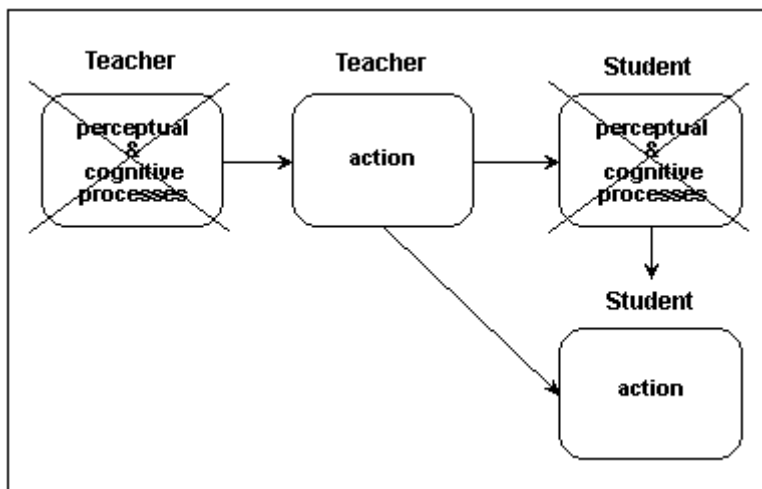
What explanatory variables did process-product research neglect? For the grounded theorist, it was the meaning-perspectives of teachers and students that were missing.Teacher behavior was not the only important variable in effective teaching. Whether children learned science also depended, for example, on teachers' beliefs about the nature of science and children's private theories of space, time and motion.

Yet, as you might suspect, grounded theory research was not a panacea for education. Indeed, the shortfalls Haig underscores for social science also exist in the field of education. Low content theories, premature testing of theory, and failure to account for alternative populations are but a few of the difficulties that Shulman and others delineate. It is here, ultimately, that Professor Haig's paper can be useful, for in addressing the question "How is inquiry possible?" he reminds us that (1) philosophy and social science research have an important role to play in the development of educational research methodology, that (2) the tackling of certain philosophical problems is an essential prerequisite of adequate and informed social research, that (3) practitioners of qualitative educational research run the danger of constructing and prematurely testing low content theories in the absence of an "abductive" theory of theory generation, and (4) that a more sophisticated

understanding of the practice of social analysis in educational research is possible through (1) and (2) and (3). We in educational research would thus do well to learn from the lessons of social science methodology.

1. Karin Knorr-Cetina, "Social and Scientific Method or What Do We Make of the Distinction Between the Natural and the Social Sciences," *Philosophy of Social Science* 11 (1981): 335-59

2. Barney G. Glaser and Anselm L. Strauss. *The Discovery of Grounded Theory: Strategies for Qualitative Research* (Chicago: Aldine, 1967).

3. Derek Layder, "Grounded Theory: A Constructive Critique," *Journal for the Theory of Social Behavior* 12 (1982): 103-23; *The Realist Image in Social Science* (New York: St. Martin's Press, 1990).

4. Ibid., 105.

5. Lee S. Shulman, "Paradigms and Research Programs in the Study of Teaching: A Contemporary Perspective," in *Handbook of Research on Teaching,* ed. Merlin C. Wittrock (New York: Macmillan, 1987).