

CHAPTER 1

THE PSYCHOLOGY OF WRITING SITUATED WITHIN SOCIAL ACTION: AN EMPIRICAL AND THEORETICAL PROGRAM

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The chapters in this volume demonstrate the renewed interest in psychological issues in writing studies, exploring fresh dimensions of cognition, affect, attention, disposition, social orientation, neurological processing, and neurodiversity that extend beyond previous information-processing models of writing to shed light on processes we have may sensed only hazily through experience. These chapters point to richer psychological accounts that respect and reveal the complexity, difficulty, and remarkable accomplishment of writing. But before looking forward to these new visions of knowledge, it would be useful to consider a question that has been around for a while: How are psychological processes of writing conditioned by the fact that every act of writing is situated and purposeful within the social and historical events the writer participates in, using the available tools and social arrangements that have emerged within shorter and longer histories (Bazerman, 2015). Sociohistoric research about writing has often been seen as opposed to psychological studies, which seem to characterize psychological processes as attributes of individuals. However, over the years I have struggled in my own research and theory building to see how psychological processes work out within situated individuals engaged in social processes. In some recent studies, which I will share in the latter half of this essay, I have identified ethnographically grounded cognitive markers and associated situated writing practices with locally valued cognitive change. These studies suggest how cognition and affect can be studied as responses to motivated, socially located writing situations and tasks. As I walk through the studies that have led me to my current research, I will articulate a way to understand the complexity of the psychological activity mobilized by writing. I hope the viewpoint pulled together from these studies may help us consider, as we move forward to new lines of psychological investigation, how to reconcile psychological and social processes

in every act of writing.

Writers always think—and feel. Readers too. Writing can powerfully overtake the mind of each. As writers and readers focus on meanings invested in and evoked by words, they block out the immediate world around them. The more difficult the meanings they are inscribing and reconstructing, the more they must concentrate and the more other stimuli distract or irritate them. Sometimes their bodies tense, sometimes they laugh, sometimes they shudder with frisson. Sometimes they feel emotional attachment, sometimes reward, and sometimes disappointment. All this happens as they engage in a social interaction mediated by the text.

Any of us in the business of teaching of writing has some taste of the divine madness Keats talks about in the introduction to the “Fall of Hyperion”:

For Poesy alone can tell her dreams,
With the fine spell of words alone can save
Imagination from the sable charm
And dumb enchantment. Who alive can say,
“Thou art no Poet may'st not tell thy dreams?”
Since every man whose soul is not a clod
Hath visions, and would speak, if he had loved
And been well nurtured in his mother tongue. (ll. 8-15)

This realization of imagination in the written word is what makes writing such a calling, and the nurturing of the imagination of others calls us to teach to tell their dreams. Yet with experience we also may learn that this madness of the imagination comes not from the universal, timeless place of the gods, but from the earthly time and space of humans—with whom we share, connect, coordinate, contend with through our writing, even if only to bring into being a future meeting with our friend by an email.

Yet for all our powerful internal experiences with writing, it is another thing to understand this madness through publically shareable evidence and coherent theory—that is, to imagine this knowledge as a science, to bring it beyond the private enchantment of our dreams of writing to confirmable communal knowledge. Unfortunately, the search for a science can be clumsy, making us more doltish than we are, as we try to simplify and pick apart complex phenomena and experiences to look at one aspect at a time. Confirmable knowledge requires us to design inquiries in order to locate strong evidence of one identifiable thing. If we know with confidence one thing, we can then add another to it, and start to reconstruct a richer, multidimensional picture. To confirm with evidence phe-

nomena that we think are already self-evident means we may have to go backward, and we may even have to correct some ideas or redirect intuitive leaps. At the end we will know more, more comprehensively, with greater certainty and greater clarity.

Such a history of clumsy early steps has been, I believe, the history of composition research, which has required us to be narrow and simple in our first inquiries, but eventually will bring us to more complex and satisfying knowledge that begins to carry the richness of our experience, and gives us the reflexive means to understand and direct our choices better. This is particularly true for the aspects of writing that are less visible, lost in the recesses of minds and feeling, for our introspective felt sense may lead us to create idiosyncratic explanations, and to overgeneralize our particular private experiences. While our felt sense may be well grounded, our explanations may produce theoretical castles in the air.

A STARTING POINT

Because the purpose of this essay is to explain my own particular path of understanding psychological issues of writing within my larger empirical and theoretical projects, I will start this story where I entered the field, motivated to help basic writing students in their struggle with academic tasks. Teaching my first writing class in 1971, I soon became aware of the speculative theory of James Moffett (1968) and Anne Berthoff (1972) which grew out of their experiences as teachers and Janet Emig's (1971) sensitive observations of students' writing processes. These texts resonated with my experience of the complexity of writing, and the richness of internal processes. I was also excited, as many were, by Peter Elbow's (1973) *Writing Without Teachers*, which directed us to grab ahold of our own processes to discover the meanings within us, freed from constraining anxieties of propriety and instruction. This too felt rich.

Shortly thereafter, as I was discovering my own teaching imperatives, two other empirical research programs emerged attempting to understand writing processes. Mina Shaughnessy (1977) adopted error analysis from applied linguistics, working from texts and student commentaries to understand how writers worked hard to make decisions that resulted in sentences that were perceived as faulted. Linda Flower and John R. Hayes (1981) adopted think-aloud methods from cognitive psychology. Although later researchers would refine or reject their proposed first models, they made us more aware of the cognitive complexity of problem solving in writing. Yet there was a cost. To make those advances, each method limited awareness of the social situation and purposes of the emergent text, the social forces and experiences that provided writing

resources and practices and that conditioned the moments of production, and the histories that brought the moments of writing into being. They treated each writer largely as a separate individual, making choices in isolation, out of time, place, or interaction and collaboration.

These missing social components, nonetheless, could not be avoided in my own quest to understand writing, as I wanted to discover what my students needed to learn to be able to succeed at the university. As I began to inquire into academic writing, the contexts, social organization of the university, disciplines and intertexts loomed ever larger as the contexts of thought. James Britton, Tony Burgess, Nancy Martin, Alex McLeod, and Harold Rosen's (1975) work about the effect of school tasks and writing relationships within secondary school illuminated how tightly writing development was tied to the enacted curriculum. Yet, as I developed a more sociocultural view of writing, looking into genres, their histories, and activity systems, I always kept ahold of how students developed their thinking in these contexts, and ultimately expressed new thoughts and meanings.

So my independent line of inquiries started with the idea of providing a sociology and history of what writing was, what resources were available and what conditions, activities, and tasks established each writing event, but my intent was this sociology and history was to be integrated with the psychology. Accordingly, I never rejected the early psychology inquiries, even though I was aware of their limitations and reinterpreted their findings through different theoretical lenses. As I studied forms of writing within social activities, I remained haunted that every text required many acts of thinking of an individual writer and prompted acts of thinking in the readers. I repeatedly returned to the individual and what happened within, but engaged as part of specific socio-historic situations, mediated by social forms, and using the communicative experiences as a resource and a framework for understanding. To guide me in bringing together the social, textual and psychological I repeatedly looked to Lev Vygotsky (1986) and his collaborators A. R. Luria (1978) and Alexsei Leont'ev (1978) and later elaborators (such as Cole [1996] and Bruner [1990]) to understand the relation of thought to expression and social interaction, but I also found inspiration in the pragmatists John Dewey (1910), G. H. Mead (1962), and Harry Stack Sullivan (1953), who articulated how emotions and thought formed within context. In recent years I found my orientation reinforced by brain research showing the flexibility of the brain as an organ that was sensitive to context, developing and reorganizing itself and its resources in response to situations, ultimately designed to help us respond flexibly and creatively and purposefully within situations (see both Talbot and Clark in this volume),

THINKING WITHIN GENRES AND ACTIVITY SYSTEMS

My initial textual study comparing prominent articles in biochemistry, sociology and literary studies (Bazerman, 1981) suggested that the differences in textual forms (which I was later to associate with genres) in various disciplines displayed different forms of reasoning, different authorial positions and relationships to disciplinary colleagues, different ways of characterizing different phenomena, and different positioning with the disciplinary literatures. Thus the texts displayed and directed the readers towards different forms of cognition with social textual, epistemic, and intertextual components. But to get beyond the cognition *displayed* in the textualized reasoning of the article, to get at the reasoning the writer used to *produce* the article, I felt I needed some process data. I searched archives of the papers of prominent scientists to locate a series of drafts that would reveal the processes and choices made by the writer. This culminated in the study of the drafts of a paper by Arthur Holly Compton that contributed to his establishing empirical evidence of quantum theory (Bazerman, 1984). But to understand the purpose of the article and the decisions made by Compton in producing and revising the drafts, I had to recover the historical situation at his time, the debates over quantum theory, his own research program and intellectual progress, and the series of articles he had already produced on this theme. The article and the decisions involved in it were rhetorically situated within specific social and historical circumstances which needed to be revealed to reconstruct the logic of the choices. Those choices were shaped and carried out by the canons of good scientific practice of the time (revealed in the analysis), but activated and directed by particular puzzles presented by the situation of the article. This study then pointed out to how processes were disciplinary and task specific, making them embedded in circumstances and more flexible, complex, and variable than previous writing process studies that sought universal architectures of information processing were indicating.

This study of Compton initiated a series of studies on the experimental articles in science, focused on the changing textual form and its displayed textualized cognition, but also with the recognition that these textual forms also implied differing forms of productive reasoning. Much of the volume *Shaping Written Knowledge* (Bazerman, 1988) was focused on the changing social and textual forms in emergent science, but at a few points psychological issues came to the fore. One of these was in considering the epistemic puzzle of how changing textual forms also embodied changing relations to the material. The argument in Chapter 11, "How language carries out the work of science," pointed out that for the individual scientist, learning textual practices was coincident with learning material practices and carrying out concrete activities in the lab-

oratory or field, according to the training and practices of the discipline. The developing symbolic representations were tied to changing orientations towards and perceptions of the material world, and the active, sensing feeling, reasoning human being stood between the material and the text. The study of the formation of the APA manual (earlier published in 1987) showed how the regulation of textual form was intertwined with regulating forms of material experience, reasoning, and even interpreting and evaluating other disciplinary texts.

INNOVATIVE THINKERS AND COMMUNAL COGNITIVE PRACTICES

Shaping Written Knowledge also included a case study of an innovative thinker, Isaac Newton, who created new forms of textual representation, pushed by the rhetorical exigencies of persuading the contemporaries of his novel theories based on original inquiries. These new textual forms then became models of shared public reasoning, which disciplined readers into ways of looking at and thinking about nature. In studies after *Shaping Written Knowledge* I continued considering the role of creative thinkers who through the textual innovations developed new modes of thinking about nature, new relations to peers and other audiences, and greater connections with the texts of others. These cases revealed ever more intensively the way idiosyncratic individual writers influenced how communities participated in science and the formation of communal knowledge. These studies revealed deeper modes of perception, reasoning and rhetorical thought that lay behind the textual innovations they proposed, a kind of psychological baggage smuggled in with the newly attractive textual forms.

I was led to the study of Joseph Priestley's (1777) scientific rhetoric because I was trying to track down the development of modern intertextual practices that position each new work within an intertextual field (Bazerman, 1991). What I found was that Priestley's innovations in reviewing prior literature came out of a communitarian ideology that saw human millenarian advancement possible, but only through mutual respect for each other's experience and cooperative collaboration in developing common wisdom. This ideology formed a view of human society, relations with others, and the social organization of natural inquiry, as well as the relation of individual cognition to group experience and reasoning. Priestley's recommendations and modeling of intertextual practices were only part of a complex set of recommendations on how scientific practice should proceed communally and how individual cognition should be attentive to and learn from communal practices. Priestley's rhetorical innovations could go so deeply in part because he had an integrated multidimensional view of life which included rhetoric. Early in his career he gave a series of lectures on rhet-

oric (Priestley, 1777). Throughout his career gave further thought to the best forms for human communication as his own views of life and activity deepened. Rather than unthinkingly relying on existing forms, he innovated to be able to accomplish new things socially within growing social visions.

Adam Smith similarly was another eighteenth-century multidimensional thinker who early on delivered a series of lectures on a rhetoric (notes from which were only recently discovered and published, Smith, 1983) and then continued to think about human cooperation, the basis of social order, and his rhetorical role as a philosopher to advance human happiness. My study of his life corpus led me to conclude that what is considered a kind of distinct invention of modern capitalist economics in *The Wealth of Nations* was really a rhetorical invention growing out of his changing perception of how people could cooperate and communicate effectively. Beyond the specifics of his case and innovation I see this study identifying how writing is an outgrowth and extension of one's growing understanding of the world one lives in, and is a response to one's perception of the rhetorical situation. For deeply reflective writers who are also reflective about the social world and their role in it, this means that writing innovation is part of a creative remaking of communicative resources. The writer's engagement with others in the rhetorical innovation, enlists others into the writer's view of the world. For less reflective writers with less reflective social understandings this means they are drawn into the psychological world shaped by the successful innovators. In both cases writing development is deeply tied to many dimensions of psychological development, and each new act of writing is positioned within and grows out of that psychological development, which has formed perceptions of the rhetorical world the writer addresses.

SOCIAL UNDERSTANDINGS AND INDIVIDUAL MEANINGS

Actually, to be understood by others and engage with them, writers must do both, understanding the world as others see it, within their typified worlds of genres and activities and also reformulating those worlds to their own ends and visions as much as they can do effectively.

My book-length study of Edison's rhetorical actions (Bazerman, 1999) displays how a major social and technological innovator had to fill multiple dimensions of existing discourses with his own intentions to carry out his ambitious intentions of creating a central system of light and power, using incandescent lighting as an intelligible and persuasive technology to gain the symbolic and material commitments needed to realize his plan. In some of these discourses he and his colleagues stayed close to the standard forms and actions, such as dealing with the corruption-filled urban governments during

an age of economic expansion and civic construction in order to gain permissions to build his systems, but in others he used standard forms to make novel claims reflecting his innovative ideas—such as in the patent system, where his surrogate patent agents used current tools of patent application and litigation, but based on the emergent designs for his technology. His laboratory notebooks reflected even greater rhetorical invention in transforming the free-lance inventor's notebook from a personal and legal record to a means of coordinating the knowledge and thought of a collaborative industrial laboratory. The notebooks left on a central laboratory table became the locus of a collective mind—orienting, directing, and informing the individual minds of the team members.

An even more fundamental rhetorical creativity grew out of Edison's early experiences with the interaction of changing patterns of newspapers, urbanization, and telegraphic and rail technology. Starting with his early experiences selling newspapers on an early railroad and continuing with his experiences as a telegraphic inventor, he understood how he could play the new environment of newspaper celebrity to advance his projects. He learned how to plant stories and give interviews that fulfilled the needs of journalists and newspapers to sell copies. He learned how to project himself as the wizard of Menlo Park, enlisting public support and creating symbolic capital to convert to monetary capital from financiers. On the other hand, his largest communicative failure was in his not being able to develop an appropriate role within new large corporations. In the early days of developing light and power with small companies (which he proliferated as separate entities), Edison fostered a charismatic form of communication where he remained the center of all communications; but when the power companies grew and were consolidated into Edison General Electric Company, he could not manage the distributed organizational communications and lost control. He was displaced by corporate leaders who imposed more organizational bureaucratic communications.

Although this story seems most obviously historical and social, it indicates his mode of thinking, communicating, and strategic planning, developed over a history of experiences, and reflecting individual dispositions, qualities, and character and forming a personal and social identity. He was a communicative thinking actor who had a perception of both the social world and his material goals, influencing the thinking of those around him through available communicative forms within organized activities (such as the patent system and journalism), but also in which he asserted innovations of forms and strategies. At the same time, his experience and perceptions that made him see his role as charismatic center rather than corporate manager made him less successful in building organizational communications.

FROM INNOVATIVE INDIVIDUALS TO DISCIPLINARY ENCULTURATION

These studies of rhetorical innovators expose the developmental phenomenology of writers, but the insights can be applied to more practical educational issues of students' disciplinary enculturation and can be corroborated with other forms of systematic data. I pursued the practical implications through two lines of research. The first looked at the displayed thoughts of students learning to produce the forms of expressed thought associated with disciplinary thinking within an introductory oceanography course at the university. The second looked at indicators of student thinking in an MA-level teacher education program as they learned to write the genres and intertextual practices fostered by their academic program.

The set of studies in oceanography began with a collaboration between a geology professor and a science education researcher to examine student scientific thinking in an introductory course. A major goal of the course was that students should begin to understand science as a process of argument over theories using evidence, and that students needed to learn evidence-based forms of scientific argument. Early on I began consulting with the team and eventually I became co-author of two of the papers emanating from this project. In one of the earlier studies (Takao, Prothero, & Kelly, 2002), a set of the student papers which had been already assigned grades by the instructor and teaching assistants were coded, with each claim assigned an epistemic level. These epistemic levels followed the particular logic of the discipline and the assignment, with the most concrete referring to the specific data given in the data base provided for the assignment, with higher levels assigned for observing relational connections among the data, identifying geologic features and processes, and ultimately making claims from plate tectonic theory. Those papers that were scored higher by the professor and graduate teaching assistants had more claims at more levels with more semantic relations among claims of different levels, so as to create denser webs of connections between data to theory with all the intermediary stages. Lower-graded papers jumped between levels, often skipping intermediary levels, and having few semantic connections among claims at all levels; for example the paper might have some specific data from the data base and some general theoretical claims from the textbook, but with little reasoning or evidentiary connection between the two, with little identification of geologic features or processes. Thus, the evaluation of student disciplinary reasoning could be tied to the presence, structure and relation of claims made in the paper.

To investigate more fully the displayed structure of reasoning in these papers, we analyzed papers from the following year (Kelly & Bazerman, 2003). Based

on changes made in the instruction to include identification of epistemic level of claims and the importance of making connections among them, the full set of papers from the class improved in this respect. In a detailed examination of a subset of four of the papers we examined how well the statements were located within the reasoning structure of the paper (a locally modified version of a standard scientific report, to fit the particulars of the discipline and assignment). The better the claims were placed in the paper structure, the better was the score they received from the professor and teaching assistants. In addition, we found a structure of lexical and semantic cohesion that corresponded in their abstraction to the reasoning structure of the paper, such that the more theoretical terms appeared in the abstract and introduction and conclusion, while concrete data terms appeared most strongly in the methods and findings. Relational, feature, and process identification terms appeared more in the latter half—in the discussion and conclusions. Thus the entire paper formed an organized reasoning structure of terms and claims. We were able to confirm these observations in a full set of papers from the following year ($N=21$) (Kelly, Bazerman, Skukauskaite, & Prothero, 2010).

Although these studies showed student reasoning expressed in texts corresponded to disciplinary thought evaluated by instructors, this does not necessarily mean the student internal thinking has changed, except in that they are learning how to produce acceptable texts. They have gained knowledge of the form and are able to follow rules of form, but that may not mean that they are able to think better in terms of the subject or can perceive events through the concepts and categories of the field. To provide evidence of this more fundamental psychological claim about psychological processes being changed through learning disciplinary writing practices, my research team looked at student writing, speech, and thought over a year-long master's level teacher education program. Because the students in the program were selected for their academic excellence, they were already highly skilled learners and successful writers in their undergraduate program; however, the concepts and activities of the program were new to them, so we could distinguish discipline and genre-specific cognitive change which might come from overall writing development. Further, the program was coherent in its goals, curricula, and activities, and available for ethnographic observation and study, so we could understand the particular forms of cognition valued in the program and the practices directed toward the expected growth, as well as the contexts within which students produced writing and carried on discussions. Further, we had access to student scripts and discussions for both formal and informal assignments, so we could analyze displayed cognition both in the assignments aimed to elicit that thought as well as in activities where forms of thought would be displayed incidentally, spontaneously, and independently

of formal evaluation. Finally, the program was also long enough (12 months) for developmental change to become evident. The combination of ethnographic, textual, longitudinal, and quantitative methods allowed us to situate cognitive development within precise, calibrated scales of local values, to locate indicators of development within the texts and discussions, and to provide statistical warrant for claims about cognitive behavior.

Based on an earlier article (Bazerman, 2008), we hypothesized that writing in particular genres would identify distinct problem spaces but also offer particular tools for the solution of those problems. The structured problem solving would elicit particular forms of thought, information gathering, synthesizing, and organized reasoning, which would provide pathways for cognitive development. With the teacher education students we indeed found that thoughts expressed corresponded to the expectations of the assignment, and even within the separate sections of a single text, the requirements of each section elicited distinct patterns of thought. Further we found that kinds of thinking required in formal evaluated assignments carried over into more spontaneous, informal activities such as electronic forums and class discussions. We also found indications that over time students working in these focused genres grew cognitively in the expected directions. Yet each student followed an individualized line of cognitive development that reflected individual sets of interests, concerns, and questions. Overall, we were able to establish that practice in certain genres led to internalization of the disciplinary concepts appropriate to the genres, affecting perception, evaluation and reasoning. That is, the students came to be more skilled in the forms of perception, thought, and action valued in the program (Bazerman, Simon, Ewing, & Pieng, 2013).

As a by-product of the coding and analysis of student texts, we found that citation behavior also correlated with the nature of the assignment that elicited different kinds of discussion of the literature. More importantly we found that the citation behavior also correlated with cognitive sophistication in terms of the program's goals and values. Specifically, in all assignments we found sentences that contained references showed greater cognitive sophistication than other sentences in the same assignment. Further, for these assignments and this program (although not necessarily for other contexts), students used the literature for conceptual content rather than methods (see also Bazerman, 2012b for the internalization and externalization of concepts), examples, data, findings or other purposes. Thus, in the earlier assignments students took from the readings ideas that helped them explain their experiences, but in later assignments they were able to discuss and compare ideas more flexibly, thus moving into more equal intellectual positions with the authors of the cited texts. We found that over the year the representations of the cited texts became more compact (that is, moving

from extensive quotations to more focused, purposeful summary). At the same time the discussion of each text become much longer, moving from under 2.4 sentences in the initial paper for each intertextual event (that is, discussion of the literature) to over 6.4 sentences for each intertextual event in the M.Ed. thesis at the end of the program. These unanticipated results confirmed that attention to readings facilitated development of expressed thought and engagement in the intellectual world of the discipline (Bazerman, Simon, & Pieng, 2014).

AFFECTIVE PROCESSES MOBILIZED IN SOCIAL MEANING MAKING

The findings from the studies of the innovative writers and the educational contexts together reveal how enculturation into the writing practices of a discipline, profession, or any organized social field, provides the orientations and tools to participate within that social field. The social field may be highly typified through long historical processes that identify preferred genres with text organization, styles, vocabulary, and contents that recognizably carry out the work of the social field, as in disciplines, or it may be freshly reconceived by an innovative social thinker and actor, who desires to reshape social arrangements and thinking, creating new roles and positions for the writer who adopts fresh communicative strategies, identifies atypical opportunities and occasions, and refigures forms and expectations. Whether at the more conventional or unconventional ends to the spectrum, individual thought is directed toward forming meanings and bringing them into social intelligibility that will achieve the desired effect. In this process of bringing communicative impulses into shared expression, many psychological processes will be mobilized and directed, responsive to the writer's perception of the activity context.

But other psychological processes are as well mobilized. Any participation in a social field raises the possibility of anxieties as one's behavior will be potentially observed and to by other participants. In fact, communicative behavior anticipates and seeks that response by the other at least to understand one's meaning and act in recognition and acceptance of that meaning. Even being ignored can raise anxiety. Thus writing puts one at high risk, evoking great potential for anxiety. As George Herbert Mead (1962) and other social thinkers have noticed, the response of the other is central to our processes of identity formation and perception of ourselves as social actors. The psychiatrist Harry Stack Sullivan (1953) articulated the potential for this reflection on social presence for raising anxiety that interferes with our clear thinking and problem solving in situations. In fact, Sullivan sees the anxiety system as core to our sense of selves and perva-

sive in all our relations. Thus even as we put ourselves at risk, anxiety can impair our ability to respond creatively and precisely to the risk.

In writing the stakes can be even higher, for a number of reasons. For one, our writing can stay around and not just vanish into the air, so that people can judge us long after the moment has passed. Further as texts persist they can be inspected more closely for deviance or error than transient speech. Even more, so much of writing and learning to write is associated with highly evaluative contexts of schooling; people may make from our writing evaluations of our education, cultivation, intellect and even intelligence. Then because no matter how much we write in a collaborative context, parts of writing are carried out in semi-privacy where we may reflect on the words we are producing, evaluate them and worry about the effect; there is more time and space for anxieties to grow. Thus putting ourselves “on the line” with writing creates psychological resistances, opportunities for failures of courage, backing away from our statements, insecurities and uncertainties, and general lack of clarity of thought, as Sullivan elaborated in his theory of anxiety. While I have not carried out empirical studies of these anxiety phenomena and the relation of writing to identity formation, I have recognized them introspectively and in pedagogic dialog with my students. I have also written some theoretical articles on them (Bazerman 2001a, 2001b, 2005).

TOWARD A SYNTHESIS OF PSYCHOLOGICAL AND SOCIOCULTURAL UNDERSTANDINGS OF WRITING

The issues I have investigated do not exhaust the ways in which psychological processes are organized and directed to meet social exigencies and contexts, nor how social situations and meanings are the consequence of psychological processes carried out by the participants in specific situations. In an attempt to create a broader vision I have synthesized how sociocultural studies can inform psychological studies of writing (Bazerman, 2015) and how psychological studies might proceed in a way that recognizes the sociocultural nature of writing (Bazerman, 2012a). Most comprehensively in my book *A Theory of Literate Action* (Bazerman, 2013) I bring together sociocultural, historical, textual and psychological views in order to form a more complete theory of writing.

Overall, these syntheses argue that writing is a complex social participatory performance, in which the writer asserts meaning, goals, actions, affiliations, and identities within a constantly changing, contingently organized social world, relying on shared texts and knowledge. The projection of meaning and shared orientations at a distance requires making assumptions and predictions about who

will be reading the texts, what their interest and knowledge are likely to be, and how they may be using the information. Understanding of genres and activity systems helps in making those judgments and identifying how to write effective texts in those situations that meet the criteria and expectations of the readers. Because writing involves so many problem-solving judgments, it is best learned through a long sequence of varied problem solving experiences in varied situations. The teaching of general skills and practices provides only some elements necessary for the complex situated problem solving of writing specific texts, both within the structured and limited worlds of schooling and in the more varied worlds beyond schooling. Research, assessment, and curricular goals would benefit from being attentive to this more complex view of writing for instruction and preparation, as well as for motivation and engagement of students.

Written symbols were added to the human social and communicative repertoire recently, around 5,000 years ago, and it has become an important survival skill for individuals only in the last century; consequently biological adaptation for writing is unlikely, and writing relies on the repurposing of prior adaptations and neurological capacities. Writing further extended the possibilities and complexity of social relations, supporting higher degrees of coordination and sharing of attention, subtlety of stance, extended reports of information, refinement of social relations and hierarchies, and individualization of interaction. But writing also created new cognitive and affective challenges, which required post-partum psychological development of individuals. Further, different forms of apprenticeship and schooling have developed in different societies. Thus, it is reasonable to assume that people manipulate and contemplate these symbols in different ways and then use them differently to facilitate the development and sharing of their thoughts.

These differences are likely to occur not only among the major different systems of literacy but even among languages using the same systems of written symbols—as evidenced by the differences in learning between alphabetic languages with substantially different phonologies, such as English and Spanish.

Cognition and affect are best studied as responses to real writing situations and tasks—personal, educational, and professional. Writing accomplishes social actions within socially shaped forms and provides occasions and tools for cognition and affect. With writing, cognitive and affective orientations and resources develop over histories of social communicative engagements. Through literacy we have learned to think about different things in different ways, but these too are associated with extensive cognitive apprenticeship in the skills, practices, and knowledge associated with any particular literate domain.

Rather than considering writing as an isolated modularized psychological function, we might look it as a complex accomplishment, enlisting varying as-

semblies of human psychological and material capacities which we learn how to redirect and coordinate for these special purposes, and that over time might create more enduring or automatized assemblies that take shape in individuals, perhaps influenced by available social practices and organized instruction. We might think about how psychological resources and processes are brought together in contingent and variable functional systems, though there may be enduring aspects of organization, processes, or components.

In the past few pages I have offered a particular program and vision for integrating sociocultural and psychological approaches to writing that point to a way to consider psychological studies as we move forward, pursuing the various research agendas proposed in this volume. Other paths to bringing sociocultural and psychological approaches to writing are also possible and may turn out to be preferable. The one thing that would be a mistake, I believe, is to separate the investigation of the psychological functions of writing apart from the sociocultural contexts and purposes that make writing a meaningful and important human activity and that provide the motives for its creation and elaboration, even as we move into new digital media for text creation and dissemination.

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