

Tracing Process: How Texts Come Into Being

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PREVIEW

Why is it important to study writing processes? The first and central reason is that writing processes are where texts come from. If you want to understand why a text is written as it is, how it might have been written differently, how it came to meet some goals but not others, how it could have been written better, then it makes sense to look not just at the text itself, but at the history of work and the varied materials from which the text was produced. In the 1970s, a number of researchers and teachers came to the conclusion that processes of writing are fundamental to understanding, teaching, and learning writing, that writing is not about learning and applying formulas for making fixed kinds of texts, but about ways of working—ways of acting—that align writers, readers, texts, and contexts.

In this chapter, we take up the central issue of how to study writing processes, the actual activities that people engage in to produce texts. As was discussed in the book's Introduction, the process of writing obviously includes the immediate acts of putting words on paper (or some other medium) and the material text or series of texts thus produced. However, the words have to come from somewhere. Thus, tracing the writing process also means tracing the inner thoughts, perceptions, feelings, and motives of the writer(s) as well as tracing exchanges (spoken or written) between people, exchanges in which the content and purposes of a text may be imagined and planned, in which specific language may even be “drafted” out in

talk as we see in chapters 8 and 9. Thinking and interaction about a text may happen at any point, may be fleeting rather than sustained, may be planned or unplanned, recognized at the time or made relevant only later. A text may be drafted and written in less than a minute (as in a quick email response) or may represent the work of an entire lifetime. Many writers describe ideas arising when they are jogging, riding on a bus, watching TV, taking a shower, in the midst of an apparently unrelated conversation, waking up from a dream, and so on. A key issue in tracing the process is how a text gets initiated. Many accounts of writing processes bracket off the task, taking it as a given—perhaps because the researcher often gives it. However, all the elements of initiation and motivation—the emergence of some text as write-able in some context—are central to tracing the process. Finally, writers do not make texts up out of thin air. As chapter 4 emphasizes, writers must always draw on other texts, most obviously through quotation and citation, but also as models (direct and indirect) and dialogic partners. The role of these other texts must be considered as central parts of the process. When we understand the writing process in this way, there is clearly no single way to study writing processes and certainly no way of actually capturing everything that goes into producing even a single text. In this chapter, **we will consider a toolkit of methods for tracing writing, including intertextual analysis, think-aloud protocols, different types of interviews, use of existing accounts, and observation.**

BASIC CONCEPTS

Inscription, Composing, and Text. In everyday usage, “writing” signifies two distinct acts, **inscription** and **composing**, that are treated as one. Writing is a process of inscription, of inscribing text onto or into some medium. We usually think first of writing on paper, but in fact the **media** can be diverse. People also inscribe text on t-shirts, on electronic media, in stone, into tree trunks, on or in metal, in the dirt, and so on. **Tools of inscription** include pens, brushes, and pencils, computers and printing presses, lithographs and keyboards, knives and sticks. In any case, when we think of writing, our first image is probably of an act of inscription, of writing with pen in hand on paper or typing with keyboard on an electronic screen. In tracing the history of a text, it may be that we are tracing a series of material inscriptions, using several tools, sometimes layered together. For example, I first wrote parts of this text in pencil on unlined paper in a spiral notebook. I then used a keyboard to enter the text, revising as I typed, onto an electronic disk displayed on a screen. I printed that text and revised by editing and writing with a pen onto the printed page (sometimes writing longer revisions on the blank back surface).

In general, we may think of a writer as a person who is composing the text as she is inscribing it. However, **composing and inscription are sepa-**

able. For example, a photocopy machine, a machine pressing words into a piece of metal, and a secretary typing up a hand-written manuscript without editing it are involved in inscription but not composing. Likewise, composing can, and often does happen, without inscription of a text, as when a person plans a text or even drafts out language mentally or in conversation with others.

When people talk about “**text**,” there are several different senses that we should be aware of to avoid confusion. *Text* sometimes means a unique material inscription. In this sense, tracing the writing process might involve tracing a series of, perhaps diverse, texts that are linked together from the perspective of some final product. Writing a paper for a class then might involve many texts, not only drafts, but also notes of many kinds (including marginal notes in readings), raw and transformed data that will be discussed, written responses to drafts, the assignment itself, and so on. *Text* is sometimes taken more expansively, to refer as well to the various mental and oral representations of the material texts, regardless of whether they are ever written out. For example, what if a writer formulates a sentence verbally, either when writing alone or when composing collaboratively with other people, and then rejects that sentence? Is this moment of composing and revision fundamentally different because the sentence wasn’t inscribed and erased? Sometimes, all of these material inscriptions (and perhaps the ideational representations) are idealized in retrospect as “the text,” uniting all moments in the production under a unified label. It is common to say that I read a book, say *Harry Potter and the Philosopher’s Stone*, regardless of which copy of it I read, whether in hardback or paper, on the Web or as a handwritten manuscript, whether in English, Spanish, or Arabic. Likewise, I might say “I spent a month writing that paper” meaning not that I slowly wrote a *single* document over a month, but that I worked toward the final product for a month, during which period I produced a whole series of texts in the first sense (drafts, notes, editorial marginalia, revisions, email messages to friends about the ideas, summaries of key readings). How we understand text—as a unique material object, as a representation regardless of medium (including thought and speech), as the ideal that unifies varied acts and objects in a process—is not the issue; the issue is being aware of the different senses, not shifting from one to the other unconsciously.¹

Authorship. When we see that tracing the composing of a text, what classical rhetoric termed **invention**, involves the contributions of multiple people, it becomes clear that tracing the writing process also implicates

¹In some technical uses, a text is understood as any specific semiotic object that we might reflect on and analyze. Thus, people can also talk about the text of a film, of the body, of clothing, of a conversation, of a cityscape, and so on.

tracing authorship. Goffman (1981) analyzed the everyday notion of the speaker/writer, suggesting that three roles are typically collapsed within that term: the **animator**, who actually utters/inscribes the words; the **author**, who selects the sentiments and words; and the **principal**, whose positions are being represented in the words. In many instances of situated discourse, however, these roles are divided, not fused. For example, a presidential press secretary (the animator) might make an announcement of an environmental initiative that the President (the principal) intends to enact, reading words written by an EPA speech writer (author). This simple division suggests that tracing the writing process also means tracing a **structure of participation**, of examining who is involved in making the text and in what ways.

Even Goffman's analysis of authorship, however, oversimplifies the complexities of the participation structure. If we return to the hypothetical example of the press secretary's announcement of an environmental initiative, it is unlikely that a lone speech writer in the EPA would produce such a text. Studies of writing in institutions have routinely found complex processes of collaborative planning and writing. Documents are cycled to various parties in the organization for comment, revision, and/or review. This chain of participants may also include editors who alter the text and word processors who inscribe written or taped drafts. In these chains, the history of a single text (in the idealized sense) is likely to involve multiple writers.

Even this more typical scenario, with authorship distributed among a number of people, oversimplifies, for we also need to consider **intertextuality** (see Bazerman, chap. 4, this volume) and the **dialogic influences** of real and imagined audiences. Each participant involved in making the text is recalling, anticipating, presupposing, or actually sounding out others (in this case, perhaps the president, the press, the public, special interests). In the government, public hearings of various sorts are often required parts of the process. In other domains (advertising, politics, public relations, marketing), focus groups and experiments are often used to test out ideas and products as they are in development. Each participant in the writing process also consults, draws on, takes text from, responds to, and argues with other texts. These complex structures of participation in authorship also complicate the notion of the principal (the one whose views are represented). Our hypothetical announcement may explicitly represent the president's position. However, through its history of production and intertextual influences, it will have come to represent the voices of many people. And, of course, whenever a government announcement of this type is made, it is read and analyzed in terms of whose voices, interests, ideas, and influences it reveals.

From this perspective, some form of **co-authorship** is unavoidable. To take another familiar example, in this view, every teacher is very actively

co-authoring her students' texts, taking up key roles in the production of the text through initiating and motivating it, setting important parameters (the type of text to write, the length, what kinds of sources to use, the timing of the process), and often contributing to content (whether through class discussion or specific response). This role is not diminished because our cultural models of authorship do not acknowledge that teachers co-author their students' texts or because the quality of the text and problems with the text are usually attributed, especially in grades, solely to the student's knowledge or effort. Understanding how people represent the process and authorship and understanding how a text is actually produced in practice are related but distinct issues; it is important to explore both.

Writing as Practice. When we look closely at situated composing, we do not find a smooth easy activity. Writing moves forward (and backward) in fits and starts, with pauses and flurries, discontinuities and conflicts. Situated **acts of composing/inscription** are themselves complex composites. Writers are not only **inscribing text**. They are also repeatedly **rereading** text that they've written, **revising** text as they write as well going back later to revise, pausing **to read other texts** (their own notes, texts they have written, source materials, inspirations), pausing **to think and plan**. In fact, if we look at actual **embodied activity**, we also see that writers are doing many other things as well—drinking coffee, eating snacks, smoking, listening to music, tapping their fingers, pacing around rooms talking to themselves, and so on. Many of these behaviors seem related to the writing, to managing the emotions as well as the creative process. Writers may also be engaged in **selecting text**—using boilerplate, drawing on prior texts, choosing quotations, and paraphrasing a source. And, of course, in many cases, composing also involves talking to other people while doing all these things—whether continuously at the time of inscribing the text as when people compose collaboratively or periodically as when writers seek input or feedback on what they are writing.

A text does not fully or unambiguously display its history—even the most insightful of interpretations and analyses are only likely to recover some elements of its fuller history, to notice some textual features that allow for uncertain guesses about their origins. Many texts (but not all) are produced across multiple moments of composing and inscription and involve a trail of related texts. Many (but not all) texts involve the active participation of two or more people. All texts build on and respond to other texts, which means that the history of any text is linked to histories of others. All writing draws on writers' knowledge, beliefs, and practices, built up through experiences of socially and historically situated life events. Writers themselves are only very partially aware of the many debts they owe to these intertextual and intercontextual influences. To understand how a text comes

into being requires looking broadly at contexts as well as closely at specific situated activity. There is, it should be clear, no way to get the whole story of any text. However, there are ways to get much more of the story than the text itself can offer, and there is much to be learned from these additional insights.

METHODS AND APPLIED ANALYSES

This section discusses methods of analysis and presents a number of examples. Its headings, subheadings, and particular analyses can serve as a map of some of the kinds of analyses you might find it productive to pursue. Not incidentally, the examples also suggest some ways of displaying data, of making analysis visible.

Collecting and Keeping Track of Texts

One of the key steps for researchers in tracing writing processes is collecting and keeping track of the textual inscriptions themselves. In many cases, it is not possible to collect every text produced. Some are thrown out or get lost. Electronic texts may be deleted.² Marginal notes on readings are forgotten. However, the more relevant texts you are able to collect, the fuller the view you can develop of the process and its contexts. You might ask participants in a research study to maintain and make available not just drafts, but also drafts that they or others have written on, separate responses, notes or doodling, other texts that they have written and used or that were closely related, and so on.

As a practical matter, it is important to ask participants what the texts are and to add explanatory labels for yourself that include when the text was given to you, what it is, who wrote it, perhaps who wrote on it (it is not unusual for writing in different ink or pencil on a text to mark different writers—different respondents and authors—or different episodes of composing). These kinds of details may seem obvious when you get the text, but weeks, months, or years later when you are analyzing the data, it is easy to

²Some researchers have used programs that provide a full record of keyboard typing. Bridwell-Bowles, Parker, and Brehe (1987) offered a detailed analysis of keystroke data. Tracking periods of pauses, forward text production, cursor movements, revisions, editing, and various combined operations, they captured some of the fine-grained differences between the writers they were studying, both in terms of total time spent in each type of activity and the distribution of the activities over the episode of text production. Even in controlling settings, it is a challenging task to read and interpret such data. Movie screen capture programs can provide a more readable view of the changing electronic screen and the actions it indexes. Geisler (2001, 2003) has extended this method to naturalistic research on writing and reading with a PDA.

find yourself mystified when you pick up a text without this kind of **contextual record** attached.

For teachers interested in tracing the process for pedagogical reasons, many of the same concerns apply. A student's final draft often makes more sense if you have available a clear record of the texts that were produced along the way, by you and other respondents as well as the student. The student's own story of the process, the text, and the contexts written at the end of the process and/or along the way (e.g., as a series of memos reporting thoughts, questions, and progress) can aid a teacher's reading and response.

Intertextual Analysis

One of the central ways of tracing writing processes is to analyze how the text itself is related to other written texts or to instances of talk. In many cases, intertextual analysis reveals much about the structure of participation as well as about the sources of a text.

Relating Text to an Initiating Text. A classroom assignment leads to a student's text. An organization's call for conference paper proposals prompts and shapes an abstract that is submitted. A company's request for a proposal leads to a proposal tightly linked to the request. A client's request for information leads first to a letter and eventually to a change in a product's instructional manual. A letter to a senator leads—through complex channels—to a bill sponsored by the senator. Texts often respond to other texts that may be treated as initiators.

An initiating text does not simply control what follows. It has to go through processes of interpretation and negotiation. For example, in an education seminar, Professor Mead made the following assignment on the syllabus:

1. A proposal for a study, with bibliography. The proposal should contain a tentative title, statement of the problem, background to the study, statement of research questions or hypotheses, method (to include procedures for data collection and data analysis), and significance of the study as major headings. The details will get worked out as the proposal is adapted to the individual problem. The proposal should be no longer than four to six pages, exclusive of bibliography.

In a seminar session, Mead discussed this assignment, elaborating on the content and goals of each section of the research proposal. As he talked through the "method" section, he suggested a somewhat different, more specific set of topics and outlined them on the blackboard as follows:

5. Methodology
 - population
 - instruments
 - procedures
 - data analysis

All 12 students whose research proposals I received followed the outline Mead had given, using headings identical or nearly identical to those given in the syllabus or written on the board in the second week of class. Of course, assignments do not automatically lead to matching texts. In fact, Mead provided equally explicit directions for the organization of a second assignment, a critique of a research article, and the students did not closely follow that outline.

Relating Text to Source Texts. Sometimes “writing” is simply using others’ texts, what we call either boilerplate or plagiarism depending on the context. As Hendrickson (1989) noted, accountants writing a proposal to audit a company are expected to simply fill in the names and dates and make no other changes because any change would create legal uncertainties. In academic settings, there may also be boilerplate. For example, a sociology student (Moirra) in a research seminar was writing a report based on a common data set from a research project. Professor West, who had designed the research, had already written a careful description of the data collected. When Moirra asked West in an early draft if she could just use that description in her report, West said it would be fine. Moirra then simply pasted the 3½ page description into her paper.

In other cases, writers may copy text in ways that would not be so readily sanctioned. For example, when I analyzed use of sources in the master’s thesis of an education student (Mai), I found a number of examples of source use that looked like the following (the bold print marks the text that Mai copied into her thesis from a book):

Besides the assumption of distinguishable underlying abilities, **advocates of a communicative competence approach make assumptions about language that have been largely ignored in traditional approaches to language assessment.** Joan Good Erickson (1981) argued that an appropriate model of language assessment assumes:

- **Language is a symbolic, generative process that does not lend itself easily to formal assessment.**
- **Language is synergistic, so that any measure of the part does not give a picture of the whole.**

- Language is a part of the total experience of a child and is difficult to assess as an isolated part of development.
- Language use (quality and quantity) varies according to the setting, interactors, and topic.

Erickson maintained that language assessment should reflect the nature of the communication process and evaluate the major use of language—that of a verbal/social communicative interaction in a natural setting.

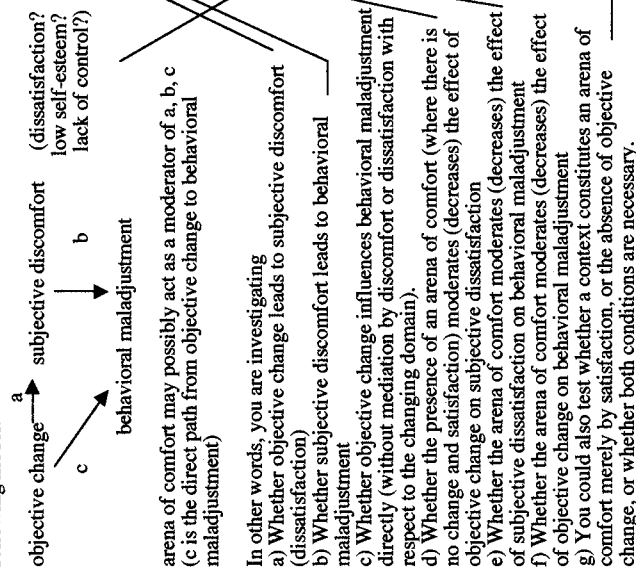
As you can see, Mai copied a lot and made few changes. Had the professors on her thesis committee realized that she was using source text this way, I am fairly sure they would have identified it as a problematic use of sources, possibly plagiarism, and required her to revise it. Oh, and by the way, the underlined text above is language that the author of the book Mai copied from—it wasn't Erickson's book—had copied from Erickson's book. Here too, I suspect that Erickson and her publisher would not have considered such copying appropriate.

Tracing a Series of Texts. I mentioned earlier the case of Moira and her writing in the sociology seminar. When I asked Moira for copies of texts related to her work in the seminar, she provided me with 12 separate documents produced over a period of 10 months. Three were drafts of her preliminary examination. Seven were drafts of a conference paper (which I refer to as *Arenas*). One was a memo Professor West had written in response to Moira's first draft of the conference paper (*Arenas 1*). The final text, put together to share with the seminar, included a different draft of her preliminary examination and a part of one of the seven drafts of her conference paper. In addition, eight of the texts included handwritten editing, comments and suggested revisions (in seven cases, this response text was written by West, in one case by a professor at another university whose theories Moira was employing in her research). Finally, some of the texts also included handwritten notes, editing, and revisions that Moira had added.³

Tracing language across multiple drafts requires a careful and close comparison of texts. Figure 7.1 displays an example of one way that West's

³This kind of complexity does not appear to be unusual. Geoffrey Cross (1994) describes how eight primary writers and several other contributors took 77 days to complete an eight-paragraph executive letter for an insurance company's annual report. The letter was signed by the CEO and the President, two of the eight primary participants, though their contributions were primarily oral planning and final approval of the text. In this period, the writers produced two conceptual outlines and seven primary drafts. Late in the process, earlier drafts were rejected and an entirely new draft was written more or less from scratch. Altogether, Cross collected 18 documents, six of which had handwritten comments and editing on them, including one document with the handwritten editing and comments of three different individuals.

Extract from West's memo of March 7
You need to be more specific about what is being tested. As I understand it, the arena of comfort hypothesis suggests the following model:



*Arrows between columns added to clarify intertextual borrowing.

Moir's AN INTERCONTEXT MODEL OF RISK
from Arenas 2 dated March 11

The general model, diagrammed below (Figure 1), investigates (1) whether objective change leads to subjective discomfort, represented by path A, (2) whether subjective discomfort leads to behavioral and psychological maladjustment, represented by path B, (3) whether the presence of an arena of comfort moderates (decreases) the effect of objective change on subjective dissatisfaction, (4) whether the arena of comfort moderates (decreases) the effect of subjective discomfort on behavioral and psychological maladjustment, and finally, (5) whether a context constitutes an arena of comfort merely by lack of discomfort, or the absence of objective change, or whether both conditions are necessary.

(Figure 1.) General Intercontext Model of Risk

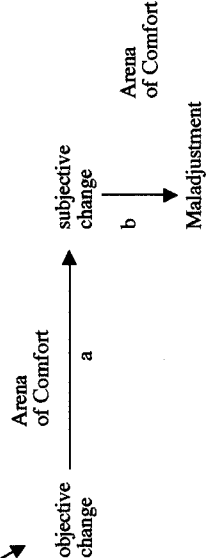


FIG. 7.1. Professor West's memo as intertextual resource for the second draft of Moira's conference paper.*

words ended up in Moira's conference paper. In addition to responses written on the text of *Arenas 1*, West also responded with a separate 2-page memo. Moira incorporated parts of that memo fairly directly into her next draft, *Arenas 2*. In Figure 7.1 the arrows between the two columns point to how closely Moira's text echoes West's. For example, in Point A on the left West says "whether objective change leads to subjective discomfort (dissatisfaction)" and in Point 1 in *Arenas 2* on the right, Moira says "whether objective change leads to subjective discomfort, represented by path A." If you compare B to 2, D to 3, E to 4, and G to 5, you will see additional examples of this borrowing. While these comparisons do reveal some deviations from West's words, those deviations seem relatively minor and one case, the addition of "and psychological" after "behavioral" in Points 2 and 5 of *Arenas 2*, could be traced to West's responses in other parts of the text. A fuller analysis (Prior, 1998) of the ways that Moira did *not* take up West's memo suggested that she was resisting West's argument, as in Points c and f, that objective change in social environments had a direct effect on adolescents' behavior (without mediation of the adolescent's subjective response to that change).

In some cases, such **intertextual tracing** was less straightforward. For example, in responding to *Arenas 1*, West only crossed out the "s" in "adolescents" in the second sentence of Moira's abstract; however, in *Arenas 2*, that sentence was extensively revised.

Arenas 1 (Abstract, sentence 2)

It is hypothesized that objectively measured transitions in multiple contexts will have an adverse impact on adolescents adjustment, and this response will depend on the actor's subjective perceptions and interpretation of the changes as negative.

Arenas 2 (Abstract, sentence 2; underlining added to mark changes)

It is hypothesized that change in any given life arena will have less adverse psychological and behavioral consequences if the adolescent has an "arena of comfort" in another domain, characterized by lack of change and satisfaction.

Had Moira initiated the major revision of this sentence? At first, I thought so. However, West's response to another sentence—from page 3 of *Arenas 1*—suggested a different story. That response is represented at the top of Figure 7.2. West's revision was incorporated without change in *Arenas 2*, as shown in the bottom left of Figure 7.2—the bold print indicating West's words. The sentence on the bottom right of Figure 7.2 is the second sentence from the abstract again, the same as the one above, only now the bold print and underlining highlight the borrowing from the page 3 sentence, revealing a complex blend of Moira's and West's words. This exam-

The bold print represents words inserted from West's written response to Moira's sentence 5 on page 3 of *Arenas 1*. The double-underlined text represents words inserted from the original language of Moira's sentence 5 on page 3 of *Arenas 1*.

***Arenas 1* (p. 3, sentence 5)**

The revised hypothesis is that simultaneous change in ~~all~~ ^{any given} life arenas ~~will have~~ ^{less} adverse psych & behavioral consequences if the adolescent ~~perceives the changes to be undesirable and~~ ^{has an arena of comfort in another} domain, characterized by lack of change and satisfaction. ~~disruptive.~~

***Arenas 2* (p. 3, sentence 11)**

The revised hypothesis is that change in **any given** life arena will have less adverse **psychological and behavioral** consequences if the adolescent **has an "arena of comfort" in another domain, characterized by lack of change and satisfaction.**

***Arenas 2* (Abstract, sentence 2)**

It is hypothesized that change in any given life arena will have less adverse **psychological and behavioral** consequences if the adolescent has an "arena of comfort" in another domain, characterized by lack of change and satisfaction

FIG. 7.2. From text to text—Tracing West's words in Moira's texts.

ple makes it clear that changes at one textual site sometimes triggered changes at another site. It also reveals the apparently seamless and uniform abstract of *Arenas 2* as a textured, dialogic, historic construction, something directly crafted by at least two people.⁴

Another crucial lesson for analysis from this example is that some of the language that ended up in Moira's final draft of the preliminary examination was actually written by West in response to early drafts of the conference paper, then copied by Moira into that paper, then later pasted by Moira into drafts of her preliminary examination. For example, the following sentence (compare to Fig. 7.2) appeared in the last draft of Moira's preliminary examination:

Following Simmons' formulation, it may be hypothesized that change in any given life arena will have less adverse psychological and behavioral conse-

⁴The problem of who is talking in sentences like this one is similar to the problem Wittgenstein (1958) noted with regard to recognizing the diverse functions of language: "Of course, what confuses us is the uniform appearance of words when we hear them spoken or meet them in script and print" (p. 6).

quences if the adolescent has an “arena of comfort” in another domain, characterized by stability (lack of change) and satisfaction.

This example points to the potential limits of looking only at successive drafts of *one* text. Consider how my analysis would have been limited, and likely misleading, had I looked only at the four drafts of the preliminary examination and treated sentences like the one above as new composing by Moira.

Relating Text to Talk. It is also possible to **trace intertextual relations between talk and text**. These relations are explored in greater depth in the next chapter. In some cases, those relations are very close indeed, as in the examples of Sean’s hypotheses and Tony’s arguments against Huck Finn that are described in chapter 8. In other cases, the effects may be less direct. For example, Lilah, a graduate student in American Studies was doing research on ethnicity in the United States for several courses, focusing especially on a study of local Cinco de Mayo celebrations in a northern city. Lilah noted that her choice for one paper came from watching a Bill Moyers’ interview of Sam Keen on TV. She also noted in her own reflections, and displayed in her papers, that her analysis of the local history of Cinco de Mayo was strongly influenced by interviews with community activists. The activists’ talk appeared not only in specific quotes in her paper, but in her rejection of an argument that the centrality of food, especially tacos, represented the commodification and hence diminishment of Chicano/a culture. Instead, with the activists, she focused on the visibility of the event and its economic benefits to the neighborhood.

Phelps (1990) observed that writing researchers had been caught up in “the textual and the psychologized rhetorics where abstractions like the fictive audience (textual representation) and the cognitive audience (mental representation) are more salient than the actual exchanges of talk and text by which people more or less publicly draft and negotiate textual meanings” (p. 158). Intertextual analysis of such exchanges of talk and text can provide much data on writing processes and on the structure of participation, the varied forms of co-authorship realized through the exchanges.

Eliciting Writers’ Accounts

Intertextual analysis can provide much data on the writing process; however, there is much that cannot be captured by these methods: exchanges that are missed; the writer’s thoughts, feelings, and sense-making; contexts that do not appear in the text. In particular, it useful to elicit writers’ accounts of their goals, their contexts, their processes, their feelings, the meanings they see in their texts, the influences they are aware of or can reflectively construct for what they’ve written and done. Broadly, **participant**

accounts can be divided into concurrent accounts, those that are made immediately with the writing, and retrospective accounts made after the fact.

Concurrent Accounts (Think-Aloud Protocols). When you look at writers composing and inscribing text alone, it is difficult to see what is happening because much of it is locked up in the silent thinking, reading, and composing the writer engages in. Early researchers (e.g., Emig, 1971; Flower & Hayes, 1981) faced with this problem drew on a technique developed by psychologists to study other cognitive processes: the use of **concurrent, or think-aloud, protocols**. The use of think-aloud protocols was particularly central to writing research in the 1970s and 1980s when this methodology was the key way researchers explored the writing process. The methodology has been less central in the last decade for several reasons. There are questions about how thinking aloud affects the writing process. There also have been questions about the value of the cognitive models typically associated with this line of inquiry. In addition, think-aloud protocols have usually been attempted only in laboratory conditions while there has been an intense interest in studies of writing in naturalistic conditions. And finally, attention to composing in naturalistic conditions also suggested that many of the key processes were social as well as cognitive. These questions are real and important (see Smagorinsky, 1994, for more on these issues). However, it is also important to recognize that concurrent protocols for the first time began to crack open the notion of “writing,” to reveal the complex, fine-grained, and diverse nature of the acts that are combined under that label. There is a wide gap between an everyday representation of writing, as in “I wrote a paper last night,” and the image of writing that a think-aloud protocol makes available, and filling that gap remains a critical project for writing research.

The following is an example of instructions for a reading-to-write task.⁵

For this assignment, you should do the reading–writing task described in the envelope, talking aloud and recording your thoughts from the time the envelope is opened. Do not open the envelope until you are ready to do and record this exercise. You should be able to do the exercise in about 30 minutes.

Talking aloud means:

1. **reading aloud** whenever you read anything (including the task instructions) inside the envelope as well as your own text
2. **vocalizing the words you write** down as you write them
3. **saying aloud what you are thinking about**, remembering, imagining, visualizing, hearing—questions that come to mind, plans you are making,

⁵For another example of think-aloud instructions see Appendix A in Penrose and Sitko (1993).

expectations, reactions, memories, images you see, conversations you recall or imagine, internal dialogues, etc.

Try to provide as complete a description of your thoughts as possible while you are doing the writing task. The idea is to provide a kind of stream-of-consciousness commentary on your thinking, not an explanation or account of your thinking. Obviously, you should not say aloud anything that will be embarrassing or uncomfortable for yourself or others.

In a seminar I taught in 1993, we all produced think-aloud protocols on a reading-to-write task (see Flower et al., 1990). I will present three brief segments out of the 21-page transcript that came out of my engagement with this 30-minute task and consider the varied ways this kind of data might be analyzed. In the first segment below, I am reading aloud (ALL CAPITALS) a paragraph on literacy from Hunter and Harmen and I begin commenting (plain text), questioning their definition by asking *which* texts one must be able read, write, and understand to be literate. The stress when reading the word “whatever” continued that line of doubt and the final comment shown, “like physics,” was said ironically, as an example of a kind of text that many highly-educated people could *not* understand.

... WITHIN THE GENERAL TERM LITERACY [clearing my throat], WE SUGGEST THE FOLLOWING DISTINCTIONS, ONE CONVENTIONAL LITERACY, THE ABILITY TO READ, WRITE, AND COMPREHEND TEXTS, // it's like what texts are you talking about? // ON FAMILIAR SUBJECTS, AND TO UNDERSTAND **WHATEVER** SIGNS, LABELS, INSTRUCTION, //like physics, //AND DIRECTIONS ARE NECESSARY TO GET ALONG WITH ONE'S ENVIRONMENT .. // that seems like a ... //it seems like it means something, //but (I do) have questions there, //TWO. FUNCTIONAL LITERACY,

After reading brief passages from five different texts, I reread the directions and began to ask how I was going to “summarize and synthesize the ideas.” In the following segment, I am moving from a plan to look for themes to considering Hunter and Harmen's passage, labeling it for the first time as a “traditional” view and again questioning their lack of specification and contextualization for understanding signs.

... I could summarize and synthesize the ideas presented in the quotations // so I could be looking here for themes in terms of um, what, literacy is and what- what themes are there here, // drinking some coffee – //hmm – //what theme would I like to pull out? // I mean conventional and functional literacy, Hunter and Harmen is just the – // it's- hm, it's the least interesting, // it's just the very traditional kind of – discussion // and and, I read it as being very empty, //you know, UNDERSTAND SIGNS, // which signs? // in which contexts? // at what level of understanding? // um, either conventional or functional literac– // and and there- there's an interesting ideological thing going on

here, // where the functional literacy is is, um, stated in terms of what people, want for themselves, // but what people want for themselves is shaped by their social environment too

After more thinking and reading, and jotting down a few brief notes, I began writing. Here is the transcript where I compose the second sentence. I begin writing (the underlined words), thinking (plain text), rereading what I had written (UNDERLINED, ALL CAPITALS), and orally composing (quotes).

Literacy is a highly contested . . . politically charged [7 second pause] // CHARGED term //ok [13 second pause] //um Traditional notions of literacy [8 second pause] whether. . . conventional. .or. .functional [7 second pause] // hm, I'm looking for a word here // "tend to" // "ought to" // right // TRADITIONAL NOTIONS OF LITERACY WHETHER CONVENTIONAL OR FUNCTIONAL, //um . . aw. I had a word in my head, which I didn't say aloud, // LITERACY IS A HIGHLY CONTESTED POLITICALLY CHARGED TERM // TRADITIONAL NOTIONS OF LITERACY WHETHER CONVENTIONAL OR FUNCTIONAL . . // . . "tend to be framed" // tend to be framed, // ok, I'm write-// framed in terms of // TEND TO BE FRAMED OF IN TERMS OF // skills and competence often. .viewing . . . competence. . .as a . .binary trait // ok // "something you have or don't have" //yeah, // thinking about treating this [as] a draft // something you have or don't have, //ok

Text produced: Literacy is a highly contested, politically charged term. Traditional notions of literacy, whether conventional or functional, tend to be framed in terms of skills and competence, often viewing competence as a binary trait, something you have or don't have.

To date, concurrent protocols have primarily been analyzed in categorical and quantitative terms. Thus for example, I would take the transcribed protocol and divide it into units. (Units are typically some kind of phrasal or clausal utterance as opposed to sentences, for reasons that should be obvious when you look at the preceding transcripts. I have roughly **parsed** these transcripts, using double back slashes // to mark the divisions.) I would then begin **coding** these units. The most basic codes are already indicated in the transcript, which distinguishes **reading the sources** (all capitals), **thinking** (plain text), **inscribing text** (underlined), **rereading the text written** (all capitals and underlined), and **orally composing text** (quotes). (**Pauses** could also be measured precisely, though they aren't in these transcripts.)

A basic analysis might consist of simply counting up the number of units (or the size of the units in terms of number of words, for example) for each of these categories. Typically analysts will want to go beyond these very basic classifications of the protocol, to identify more specific activities. For example, thinking may be subdivided into categories like **setting goals**, **generating ideas**, and **responding to other texts**. And these categories might be further subdivided. Setting goals might be divided into goals for content,

procedure, style, organization, and rhetorical situation. Responding to texts may be divided in terms of how close the comment is staying to the text (e.g., summary vs. transformation), stance toward the text (e.g., agreement vs. rejection), or some other feature that seems salient in the data. Geisler (1994), for example, noticed that Ph.D. students in philosophy were regularly responding to texts in terms of what the authors were arguing while freshmen writing in response to the same texts rarely did so, focusing mainly on the ideas. Thus, she coded her transcripts for **author mentions**, which became a key element of her analysis.

With the think-aloud transcript divided into units and classified in these ways, analyses might focus on the overall activity, especially on comparisons between individuals or groups, between tasks, between conditions, and so on. This kind of coding and counting can provide a sense of what proportion of time is spent in each type of activity. It might also focus on the sequential pattern of the activity, addressing such questions as at what points in the process the writers read texts or how goal-setting is distributed across the process. It might identify sequential patterns over the session (as in the shift seen in the three extracts above from early reading with limited commentary, to mid-session thinking and planning, to late session composing and inscribing) or types of repeated sequences (e.g., write-evaluate-write or write-reread-comment-write as seen in the last extract).⁶

However, these think-aloud transcripts could be analyzed from other discourse perspectives. For example, drawing on Bakhtin's (1981, 1986) theories of language as dialogic and intertextual and Vygotsky's (1987) understanding of development as fundamentally social, I might instead look for traces of, and responses to, others. The underlying notion of internalization was articulated by Vygotsky (1987): "An operation that initially represents an external activity is reconstructed and begins to occur internally . . . Every function in the child's cultural development appears twice: first, on the social level, and later on the individual level; first, *between* people (*interpsychological*) and then *inside* the child (*intrapsychological*). . . ." (pp. 56–57). Wertsch (1991) emphasizes the contribution of Bakhtin's notion of **hidden dialogue** (dialogue with the second voice missing) to understanding internalized speech. Analyzing parent–child interactions around a puzzle, he traced the shift from the parent's verbal and nonverbal scaffolding to the child's own self-regulation of the activity. **Inner speech**, like intertextuality, can involve **repetition** and **presupposition**. In general, it does not involve full inner dialogue (e.g., a person mentally asking herself "What does that piece look like?" and then answering "It looks like the

⁶Flower et al. (1990) would suggest ways of linking an analysis of the text I wrote (classified in terms of how I used sources and added in other ideas), the strategies displayed in the text and protocol, and the think-aloud protocol comments.

bus"). Inner dialogue will typically appear as the answer that presupposes a question or even the shift to regulated attention without words (just looking at the pieces with a particular puzzle-making orientation).

Bakhtin's account of dialogicality . . . suggests that what comes to be incorporated into, or presupposed by, an utterance are voices that were formerly represented explicitly in intermental functioning. The issue is how one voice comes into contact with another, thereby changing the meaning of what it is saying by becoming increasingly dialogical, or multivoiced. (Wertsch, 1991, pp. 90–91)

The notion of inner speech and hidden dialogicality, of inner speech as incorporating iteration and presupposition, could be used as a framework for analyzing think-aloud protocols.

For example, in the extracts I have presented from my think-aloud, I am directly adopting (without quotation or citation) a categorical scheme (conventional vs. functional literacy) from Hunter and Harmen, a clear example of intertextual uptake. In the second segment, I identify Hunter and Harmen's views as traditional, setting up a contrast between traditional and other (modern) views of literacy. In making this contrast, I am not echoing any particular text, but am acting in response to many texts I have encountered that tell a metanarrative of progress. In other words, this contrast and the organizational structuring it affords is another trace of intertextual influence. When I question Hunter and Harmen in the first two segments, I am echoing a repeated experience, a request for specifics, that I have experienced in school and out, directed at others' texts and my own. The form of this practice—that incessant questioning of what, how, where, when, and why, that demand for precision and detail—is again intertextual. However, it is also a presuppositional stance taken up in relation to texts: At no point in the transcript did I consider what stance I should take to these texts. (And, of course, there are other stances. I might have approached the text as a poem, perhaps saying the words aloud to savor their sounds and rhythms or working to learn them by heart.) Finally, there is my use of "tend to." Here I see hidden dialogicality (presupposition), a response to the repeated questioning from teachers and readers, "Always?" that has crystallized into the kind of carefully qualified stance toward claims typical of many academic texts. With this brief analysis, I mean to suggest that other forms of discourse analysis could be employed when looking at think-aloud protocols. These kinds of analysis would be particularly useful when accompanied by other intertextual analysis and by interviews.

Retrospective Accounts of Writing. Retrospective accounts of writing rely on people's memory, and it appears clear that people remember relatively little of the moment-to-moment thinking and action they have en-

gaged in. Retrospective accounts must also be considered as reflections and constructions tuned to the social situation and time in which they are produced. The farther the separation between the event and the recall, the more likely that the account will contain the familiar **conventionalization** and **simplification** that Bartlett (1932) first described. Details drop out and new ones are added.

Using Naturalistic Accounts. Some of the earlier theories and research on writing were inspired by writers', typically professional writers', accounts of their processes. Such accounts might appear in **autobiographical or biographical narratives or in interviews**. The series of *Paris Review* interviews with literary authors represented one key source, often presenting images of manuscript texts in progress as well as close accounts of writers' habits. Ernest Hemingway, for example, reported (see Plimpton, 1963) writing in the morning, standing up at a reading board, writing in pencil on onionskin paper. His interview begins with an image of one of his handwritten manuscript pages. In some cases, people have set out to document in great detail institutional processes of writing. For example, a publicist, Terry Erdman, wrote a book on the production of Star Trek TV shows and films, *Star Trek Action* (1998). The book includes richly detailed observations of writers at work, including recorded dialogue and texts from writers' brainstorming meetings, sample scripts and storyboards, and examinations of transformations that occur during production and post-production. Here again, naturalistic accounts can provide valuable information.

Process Logs. You can also ask writers to keep a log on a daily basis (or so many times a week) of the activities they engage in and their thoughts on the writing process. See Figure 7.3 for an example of instructions for a **process log** in relation to a study of writing in a class. The instructions could be modified in varied ways to fit other settings, to vary the regularity or form of the log (e.g., entries could be sent as emails), to address other kinds of participants (e.g., instructions for a 10-year-old would need to be quite different), and to highlight different questions. Nelson (1993) reported on process logs as a window into undergraduate students' research processes. Log entries varied from longish discussions of sources and writing activities on days of intense activity (usually close to deadlines) to brief, telegraphic, somewhat whimsical entries such as the following:

November 2: Thought about my paper with a feeling of dread. Decided I had to go to the library that day. Didn't. (p. 107)

In a research project I conducted (see Prior, 1998), one graduate student (Lilah) agreed to keep a log (out of some 60 who were invited to do so). Dur-

A **process log** is a journal in which you discuss what you are writing, what you are reading in relation to your written work, and how writing for this class relates to other writing you are doing or have done. I ask that you spend about 15 minutes four times a week writing in your process log. I also ask that you maintain copies of notes and drafts of your writing that I can collect from you.

What should I write about in my logs?

1) Keep track of any **writing** you have done for this course since your last entry. If you have not done any writing, say so. (By writing, I mean not only substantial work on a draft of a paper or other assignment, but also notes you write to yourself about what you need to do, email exchanges about course writing tasks, fragments of ideas or neat sentences that you scribble on a scrap of paper, whatever....) I am interested in the stories and scenes of your writing: in what you wrote, how long, when and where.

2) Keep track of what you are **reading that relates to your writing**. I am interested in how you approach and read texts in your field. I am particularly interested in hearing about instances where reading something triggers thoughts about your writing, even if the reading was not obviously related, even if the reading was not academic (e.g., reading a newspaper, a novel for pleasure, surfing the web).

3) Keep track of **discussions** you have with professors, other students, friends, family, co-workers, or whoever that relate to your writing. These discussions may be anything from a conference with a professor to a casual conversation on a bus. You may include lectures you attend, discussion in this or other classes.

4) I am interested in **what you think and how you feel** about the writing you are doing, how you are understanding the task, imagining the text, facing particular problems, feeling frustrated or excited.

5) If you do not have much to write about some days, I would be interested in ways the writing you do for this class relates to past writing you have done as well as to future projects or work, in your writing processes (e.g., How do you write? Where? Who reads your writing? How do you get ideas? Do you think about your writing during other activities? How do you experience ideas when you write—as words in your heads, voices, images or pictures? What are your attitudes toward writing? How do you evaluate your writing?)

What texts should I keep track of? As #1 above suggests, I am interested in any writing you do in relation to this course. I would also be interested in papers you have written in the past that relate to your writing here, anything you are writing that relates but is not for this course. I am interested in scribbled notes, outlines, lists of things to do, ideas you write in the margins of books or articles, data that you are using, email exchanges, list serve discussions, and, of course, drafts you print out (including ones with handwritten editing or responses from your instructor). The more you provide me, the better. Please do not be concerned about issues of correctness, clarity, neatness. I will show you my early drafts of papers, which have many misspellings, typos, errors, incomplete ideas. For many people, myself included, writing is a messy process. We tend to keep the messy pieces to ourselves, but I hope you will be willing to share them because they are essential to the process. (Of course, if you are one of those people who sit down and write a single final draft, that is fine too.) If you are writing on a computer, keeping electronic copies of your work in a separate folder for this research might be easiest. You could photocopy paper texts or give them to me temporarily so that I can photocopy them.

FIG. 7.3. Sample instructions for a process log.

ing a 10-week quarter, Lilah provided 23 entries of varying length and format (from essay-like, paragraphs on focused topics to telegraphic lists of ideas for papers), totaling 73 handwritten pages of text. In an early log entry, after she has decided to study the history of the local Cinco de Mayo celebration, Lilah recounts a conversation from another seminar:

One woman is writing her paper on Tex-Mex cuisine. As it happens, the year Tex-Mex became big was also the year when illegal aliens and cracking down on border control was the hot political issue. She thinks it has something to do with imperialist nostalgia—desire for cultural artifacts of destroyed or subjugated peoples. It's also a commodification of culture—a way of getting "goods" from another culture without the people.

Someone mentioned that she should go to the International Festival and look at how that is commodified. Suddenly, ethnicity=food, i.e., something consumable. This is what I'm wondering about with Cinco de Mayo. What's used to present ethnicity? And is the festival really about ethnicity or more about commodification of an ethnic community that makes it more palatable to the larger American community? I've always felt a little disappointed with these events that claim to be international and end up just featuring different dances, clothes, foods. But until today I didn't know why. Really, they lose their cultural differentness by putting it into a shape Americans can buy.

In both cases, the logs display key points in the history of the text, reveal much about affect and motivation, and facilitate interviewing. A question about the class where Tex-Mex food and imperialism were discussed is more likely to trigger a rich response than an open-ended question about whether class discussions influenced the paper (especially weeks or months after the event).

Semi-Structured Interviewing. Semi-structured interviewing essentially consists of asking questions that have been worked out to some degree in advance, but also involves leaving the script behind to follow up on the interview. For example, when I first interviewed Sean, a sociology graduate student whose dissertation prospectus is discussed in chapter 8, I asked a standard question—whether his papers were related to personal interests:

Paul: um, is this related to personal interests at all? is this something you expect, something that that you might have been interested in four years ago, before you got involved in the project?

Sean: no, no, definitely not, no, it was more of looking at the five variables and deciding what I was going to do, basically the three biggies as far as I could see were self-esteem, self-efficacy, and depression, self-esteem I know first hand was just a very complicated literature, it's gigantic, and there are some very serious complications with the whole idea of self-esteem, so I didn't want to get into that, and um the, and also there's a lot of good work that's been done on self-esteem, so if it would be difficult for me to make a contribution in that area, not only in terms of getting on top of the huge literature, trying to circumvent the fundamental problems, but also in trying to come up with something new and that you know people would be interested in, very difficult variable to work with I think, self-efficacy was actually a very good variable, but someone already took it

Sean quickly responded “no” to the question of whether he was personally interested in his topic (depressive affect). However, he immediately went on, beyond the question, to talk about the five variables in the data set and how he judged which one would be the best for him. This information provided insights about the research project he was working on and about the rhetorical character of topic selection. When he mentioned (in the last line of the quote) that “someone” had already taken his first choice, I followed up with another (unplanned) question:

Paul: somebody else here or . . . ?

Sean: well, Dave Lynch, the, Professor Lynch, he already had self-esteem, er self-efficacy, and so I felt as though depression would be my best shot, so that’s what I {I laugh} I but you know I’ve thought about this often, you’re supposed to, like an author, you’re supposed to write what you know right? well, I don’t know any depressed teen-agers {I laugh}, this has all been a very library oriented thing

Paul: yeah, not a personal experience

Sean: not at all {he laughs, I laugh}

The follow-up told me more about how different members of the research team had carved out personal niches and about Sean’s motivations for his research. Discursively, his shift in interpersonal representations—from “someone” to “Dave Lynch” to “Professor Lynch” (perhaps after starting to say “the professor”)—was also interesting, perhaps a sign of the multiple social footings for graduate students working on the sociology research project, perhaps also a sign of his negotiating my status as researcher in relation to the group. In the end, Sean returned to my initial question, with a sense of irony.

These exchanges illustrate the way **semi-structured interviews move between scripted questions and open-ended conversations**. The initial questions can be fairly generic (like the question I asked Sean at first) or grounded in specific knowledge you have built up through earlier research. As an example of the latter, in an interview with Lilah (the American Studies student who did the process log), I drew on several comments she had made in the process log about her efforts for the three professors she was writing papers for that quarter and asked if she had a sense of why she had put more effort into her paper for Nash than for Marini, and more for Marini than Kohl.

Stimulated Elicitation Interviewing. When asking a question in typical semi-structured interviews, you are depending on the person’s memory as the basis for a response. Many researchers have found that an interviewee’s responses become richer when the person interviewed has some

external stimulus, some object that can trigger and support memory as well as serving as a source for new reflection. The specific props and directions can be varied. The prop might be a text or specific highlighted parts of a text (in original form or transformed), photographs of certain scenes, an audiotape of some interaction, or a videotape of some action. The directions for how to respond to the prop can also be quite varied. Let me give several examples here of ways that texts might be used as props in text-based interviewing.

In interviewing a NNES sociology student who had provided only a single draft of one paper with the professor's responses on it, I went through the text and highlighted a number of the editorial marks, corrections, and marginal comments the professor had made and asked the student in the interview to read the comment aloud, explain what it meant, and state what action if any he had taken in response to the comment. From this interview, I learned much about which comments the student seemed to understand and which he didn't. It also became clear that, although he was supposed to be revising the document, he had not thought through the responses and had not begun revision at the point of the interview.

In an early interview with West (the sociology professor), I asked her to look at each student's text and tell me a bit about the history of that text and the student. She would glance through the texts as she was talking, sometimes stopping to read bits of text and especially any of her own written responses.

In another study (Prior, Hawisher, Gruber, & MacLaughlin, 1997), we were interviewing teaching assistants and faculty on how they had implemented writing-across-the-curriculum practices in their courses. We would ask them to talk through their syllabi and explain specific assignments. In some cases, when instructors had brought copies of the assignments, their talking from those assignments combined with questions by the interviewer (who also could use the assignment text to form new questions) resulted in very detailed discussion of the instructor's motivations and expectations for the assignment.

One form of **text-based interviewing** that has been used often in writing research is called **discourse-based interviewing**. Discourse-based interviewing (Odell, Goswami, & Herrington, 1983) was developed to help uncover writers' tacit knowledge of, and motivations for, texts. It is a method that involves some transformations to the original texts. This technique typically involves: (1) presenting one or more alternatives for some passage(s) of a text to the writer (or possibly someone else), (2) asking if she would accept the alternative(s), and (3) asking her to explain why or why not. For example, in a discourse-based interview on an email message, I might cross out the salutation "Dear Professor Hujwiri," and write in a proposed alternative salutation "Anisa." Of course, alternatives could involve

any transformation: deleting text, adding new text, moving text around, changing the font or the medium (e.g., from handwriting to print). It is important to make it clear to the writer that the alternative is *not* intended to be a correction or a proposed improvement, that it might be better, worse, or no different.

Here again, this basic method can be varied.⁷ In some cases, I made similar transformations to a professor's written comments and then asked the student whether she would prefer the original comment or the alternative and why. In a case study of Moira and West, I made extensive use of parallel discourse-based interviews on Moira's texts with both Moira and West. I chose this approach because I wanted to gauge whether Moira had accepted West's revisions because West was the authority and to see whether Moira and West would agree on the reasons for and against specific alternatives—in other words, to see if Moira was just making the changes or if she was learning from them.

In this case, I included alternatives taken from Moira's earlier drafts that had been revised. Most of these prior draft alternatives were ones that Moira had authored, West had rewritten in her response, and Moira had accepted in her revision. I prepared three texts for the discourse-based interviews. Using clean copies of the three texts (*Arenas 4* and *7* and *Prelim 4*), I introduced 36 alternatives (in some cases two alternatives in a single sentence). Moira responded to the full set of alternatives in her interview. However, because I was interviewing West about other students' texts and her time was limited, I only presented 21 of those alternatives to West. In this interview, I offered Moira 16 opportunities to replace revisions West had written and she had copied with her original language. In seven of the 16 cases, Moira chose to return to her original language, not realizing that that was what she was doing. In five cases, she chose to retain West's revisions. She expressed no preference in two cases and rejected both in two others. Evidently, when West's authority was removed from the revisions, some became much less compelling, while others appeared to have become internally persuasive. In a separate interview, West was offered nine of the same alternatives (changes that placed Moira's original texts against West's revisions). West chose to keep her own revisions seven times, to return to Moira's wording once, and to reject both once.

Although the quantitative data were suggestive, I was especially interested in comparing the reasons they offered and the extent to which those reasons matched. That analysis revealed complex patterns of convergence and divergence. Figure 7.4 displays an example. The sentence at the top represents the prompt I constructed. The proposed alternative, "operationalized, this becomes a bit tricky," is actually Moira's language from

⁷Although she does not name the technique, Nancie Atwell (1987) describes using discourse-based interview questions during her "evaluation conferences" with middle-school students.

operationalized, this becomes tricky.
 However, ~~[the relationship between objective change and subjective discomfort, and their implications for psychological and behavioral adjustment, remain problematic]~~.

Moira

...ok, hm, I like the change, because this was so wordy, but I don't know if it gets at it () because I don't know if it was necessarily in her operationalization I mean because it- the article I was reading was more theoretical argument than an operationalization, so er uh, or empirical work, so since she's never tested it herself, I don't think that "operationalize" would be the right word but I would definitely accept revamping this sentence and simplifying it, I like this because of the "tricky" but "operationalize" is probably not the right word...

West

...here I would think that the new wording is simpler, so that's a benefit of it, but the referent to "this" is unclear because uh, and I think that the revision changes the meaning of the sentence, because what you're initially talking about here are the relationships among variables, a theoretical connection whereas the new wording introduces the issue of measurement, and uh, and and it's a- it's ano- it's another issue, so I think I would reject that alternative...

FIG. 7.4. Moira and West reply to a proposed change in *Arenas 4*.

Arenas 1; the printed, crossed-out text is a substitution West had written in and Moira then included in all subsequent drafts of *Arenas*. Moira rejected both the alternative and West's revised language, whereas West rejected the alternative and kept her wording. However, Moira made it clear that she no longer felt comfortable describing the issue as one of "operationalization," as she had in *Arenas 1*, seeing it instead as "theoretical." In fact, in spite of their different decisions, comparing the transcripts from West's and Moira's interviews made it clear that both agreed that the real issue was theory, not operationalization. Thus, on that issue, we see clear convergence. Both Moira and West also mentioned some benefits to "simplifying" the language. However, Moira seemed more attached to her original tone, particularly preferring the word "tricky" to "problematic." In other words, Moira had found the content of West's words persuasive, but was resisting the kind of language and style that West employed.

Another way to elicit accounts is to **ask writers to draw their writing processes and contexts** (and then describe that drawing). In a current research project that Jody Shipka and I are conducting (see Prior & Shipka, 2003), we ask writers to draw two pictures of their processes for a specific writing project. The drawing of the first image is prompted by something like the following directions:

The first picture should represent how you actually engaged in writing this particular piece. That picture might show a place or places where you wrote, a kind of sustained episode of writing, what resources you use, other people who are involved, how you vary your activities as you engage in a specific episode of writing, how you feel during the writing, and so on.

In addition, we show the participant examples of several other writers' drawings produced in response to this prompt (intentionally choosing drawings that are quite different in detail and style). The second image is elicited with something like the following directions, aided once again by several examples of other writers' drawings:

The second picture should represent the whole writing process for this project from start to finish (or to the current stage). The picture might show how this writing project got started, interactions with other people and other texts, experiences that have shaped the project over time, the history of drafts and responses to drafts, your evaluations of and emotions about this project at different times, and so forth.

For the first image, writers typically draw rooms in their homes where they write and some of the objects and people they interact with there. For the second, they typically draw a chain of events across a variety of sites. (One drew the continent of Africa with a small village hut in the middle because that was where her field research occurred.) In both drawings, participants often produce visual metaphors to depict thought processes and emotions. The task of doing these drawings in response to our prompts and examples seems to encourage participants to provide detailed descriptions of the scenes and resources of their writing, of the "procrastinating" downtime behaviors they engage in as well as the focused work, and of the emotions they experience (and how they manage those emotions). While participants are doing the drawing, we also have an opportunity to look at the text or texts that they have brought in. We ask them to bring to the interview whatever would help us to understand their writing on this task. Participants have brought draft and final texts (sometimes with written comments from others, such as instructors), notes, assignments, personal journals, photocopies of articles marked up by the writer, and so on. While the participants are drawing, we look over the texts. The interview then is semi-structured,

with some general questions about writing, a request to talk through (and possibly amend) the drawing, and questions prompted by our reading of the texts.

Figure 7.5 presents two drawings that an undergraduate student, Laura, produced as we talked about a paper she wrote for a non-fiction writing class. The scene of writing at the bottom of the figure represents her apartment. With the drawing as prop, Laura described her movements between her upstairs bedroom, where the computer was, and the downstairs couch, where the TV was (for breaks). She explained why she normally wrote at night because of her class schedule and talked about a number of the conditions of her typical writing: eating pizza, listening to instrumental jazz, being interrupted by telephone calls, reading texts that lay around the room, and so on. In talking through the drawing of the overall process, Laura began with reading the book that she would write about, getting an idea (a light bulb in the drawing) and then going to the main library stacks. She went on to represent her process over the next 7 weeks as she researched and wrote the paper, turned it in, got back her draft with a grade of C, and then went through a process of working through her sadness over the grade, revising the paper, and finally turning it in and getting a better grade. (Laura also brought the final paper with the instructor's handwritten response and the draft she had turned in, with her instructor's comments as well as some extensive handwritten notes and drafting she later added to it.) What is critical here again is not the specific images on the drawing, but the ways that the drawing is described and elaborated on in the interview and the follow-up questions that those descriptions support.

Using videotaped or audiotaped records of composing as a basis for interviewing is another type of stimulated elicitation. Rose (1984), in his study of writer's block, asked people to write in a laboratory session. He used two cameras, one focused tightly on the page so that it would display what was being written and the second on the person. Immediately after the writing was over, Rose presented the images on split-screen TV and asked the writers to talk through what they were seeing on the tape, stopping it sometimes to explain in more detail. DiPardo (1994) describes a similar use of audiotaped records of peer response groups.

Observation of Writing

Participant observation of sites of writing offers researchers additional resources that support data collection. Being at sites of composing can result in getting greater access to basic data (e.g., texts that are being produced), in building a knowledge of the histories and typical processes of writing and review, and it can allow direct observation of interactions. Of course,

some of these benefits can also be achieved by asking participants to audio-tape or videotape themselves (or perhaps to turn on their Web cameras).

Field Notes on Writing Processes. Latour and Woolgar (1986) describe an ethnographic field study of a biochemistry lab at the Salk Institute. Although their focus was on science, much of their data looked at processes of inscription. Through **field notes and photographs** of the lab, they developed a fine-grained account of the ways that data were produced (which involved much labeling of samples, the keeping of meticulously detailed laboratory notebooks, and computer printouts), the ways that raw data were transformed into table and graphs, the ways that those tables and graphs then became the data and were moved to the biochemists' offices where they were used, along with articles, books, grant proposals, and already written articles, to produce new articles, which were circulated to colleagues, submitted to journals, revised, sometimes becoming publications which were then resources for new publications and citations to add to articles, grant proposals, and vitae. Their study suggests some of the key values of participant observation.

Recording Events Related to Writing. Matsushashi (1987a) provides close analysis of revising based on **videotaped recording of participants writing** in a research setting. With the videotaped record, she was able to examine pauses, noting the quite diverse temporal patterns of inscription, and also to trace the precise details of revision during the process. In her data, she focused entirely on what was happening on the page; however, videotaped records could provide for detailed analyses of writing practices more broadly.

A number of researchers have used or created **settings where people have to collaborate on their writing** and then recorded those interactions. (For example, see Kamberelis and de la Luna's example of the owl pellet report in chapter 9.) Although such recording could be used for stimulated elicitation interviewing, it can also be used for direct analysis. Syverson (1999) describes a study in which she asked a collaborative group in her class to audiotape their meetings. By listening to the discussion in the dorm rooms, Syverson learns much about the conditions of composing (e.g., late nights, regular interruptions) as well as about the details of collaborative planning and composing of the text.

Integrating Data From Multiple Sources

Dyson (1997) suggests the richness of mixing participant observation, interviewing, text collection, and recording in her accounts of elementary students planning, writing, and performing story-plays for writers' theatre. She

is able to trace individual and group patterns over weeks and even across years and to explore in detail ways that students incorporated mass media in their texts.

Through participant-observation, text analysis, and interviewing, Kamberelis and Scott (1992) analyzed the complex origins of two elementary students' texts. One fourth-grade student, Lisa, wrote "Living in the Black Life," which read in part:

Its nice living in the black life. I haven't been harmed in Detroit. Back then black was treated bad and beaten and spat at. . . . We communicate with each other but it is a wonderful life that my life being black. And I don't hate for being black and other blacks shouldn't hate being black. They should be happy who they are. And no matter what whites do to blacks we are good people still. So love who you are don't hate yourself and thank God for making you a person.

Kamberelis and Scott found that, given the opportunity, Lisa had creatively adopted the utterances and ideologies of many others.

. . . for example, Lisa told members of a peer editing group that "it's [the title] from a song I like called "Back in the High Life Again" [by Steve Winwood] that's about having a good life after some down times." Similarly, Lisa noted in an interview that "I got the idea to say 'it's a wonderful life' from a movie I saw at Christmas about a guy who wanted to kill his self 'cause his life was really a mess and how an angel told him he should like himself and go back and be with his family." (p. 377)

In interviews about her writing, Lisa describes what Jesse Jackson said on TV, a guest from a local university (Professor L.) said in class, and her mother and people in her church said regularly about the need for Blacks to be proud even if they face hatred or mistreatment from Whites. Kamberelis and Scott note: "This message is re-envoiced in *Living in the Black Life* in a way that seems to preserve both the urgency of the message and the ministerial cant in which it was originally delivered by Jackson and Professor L." (p. 378). Here again, Kamberelis and Scott (1992) were able to unpack many specific intertextual influences because of the intense longitudinal collection of multiple types of data (see also Kamberelis & de la Luna, chap. 9).

CONCLUSION

The naturalistic study of writing processes is complex; however, it is also critical. **We can only understand where texts come from—in terms of their authorship and social contexts as well as their content and textual**

organization—by careful tracing of their histories. The richest histories will emerge from multiple methods, with intertextual analysis, participant accounts, and observation of activity working together to produce a fuller portrait of the process. When we trace such histories, we are studying not cognition alone or social context alone, but rather the intersection of the cognitive and the social in activity that is distributed across individual acts, collaborative interactions, and many socially and historically developed tools (from technologies of inscription and distribution to discourse genres for communication). Research on writing processes has already led to major shifts, not only in our understanding of how writing gets done, but also in our practical sense of how to manage our own writing and how to teach others to write. Various process-influenced pedagogies of writing have become the dominant model for teaching writing at all levels, though many older practices not informed by process research certainly remain in place. Much remains to be learned in this field. We have, for example, just begun to explore writers' everyday practices—the embodied, situated, mediated, and dispersed processes out of which specific texts emerge. There is every reason to suppose that what we find through this line of research will continue to contribute to our practical work as writers—and, for some of us, as teachers of writing—just as it will continue to enlarge our understanding and propel our theories of people's literate practices.

ACTIVITIES

This section presents some activities you might engage in to begin exploring methodologies for tracing the writing process.

1. Consider a paper you have recently written. Make a drawing that represents the key concrete activities you engaged in as part of this writing process. Be sure to include activities involved in invention (like reading, talking to others, coming up with ideas about the paper—wherever that might happen) as well as inscription (like the actual production of the text, your drafts and notes). Then draw another visual representation in which you create a visual metaphor (or metaphors) that represents key elements of your process of writing the paper. Compare the two representations. Do they tell you different things about the process? What does each include? What does each exclude?

2. First, write a general account, based on your memory, of how you write summaries. Second, do a think-aloud protocol, following the instructions presented earlier in this chapter in the section on concurrent protocols. Your task will be to summarize and respond to the discussions of the nature of “texts” found in the following passages of this book: Wysocki's discussion

of the visual nature of text in the second section of *Basic Concepts*, p. 124; the first two paragraphs of Kamberelis and de la Luna's *Texts: Forms of Writing and Formal Characteristics of Written Language*, pp. 240–241; and the second paragraph of *Three critical issues* in the Introduction by Bazerman and Prior, pp. 6–7. Immediately after the protocol, sit down and write about the experience. Pay attention to the relationship between what you said aloud and what you experienced in your head. Also note how thinking aloud affected the way you read and wrote. Then transcribe the protocol (using the conventions discussed in chap. 8). Now compare your initial account of writing with the think-aloud protocol and the immediate account. Note differences as well as similarities across these accounts.

3. Using the instructions for process logs provided in Figure 7.3, keep a process log of your writing in relation to a class assignment or some other writing project. (While you are doing the writing project, don't begin to review and study your log.) When the writing is completed, first write up an account from your memory of your process for this project and then begin to look through your log and materials (any drafts, notes, email, etc.) you maintained. Consider the following questions.

- Compare the account of the process you wrote up with the log and materials? Are there differences? (I would expect the log and materials to include evidence of specific events and decisions that would not appear in the final account, though the opposite is also possible. You may also find points on which the two accounts disagree about what happened.)
- How complete do you feel the record is? Are there important events, certain types of information, or certain types of materials that are not included in your process log? Also, are there log entries or materials that you have kept that you might not be comfortable sharing with a researcher?
- Examine the development of a few selected passages from your text. Using any drafts or notes, try to trace the precise changes that occurred in the texts through the writing process. Then consider what evidence you have *in the process log* (entries and materials) for why these changes happened. (You probably have memories that go beyond what it is the process log, but as a researcher of others' writing, memories would only be available through additional participant accounts, e.g., from interviewing.)
- Finally, from these comparisons, what do you see as the benefits of process logs and their limits or problems?

4. Look at writing in a specific site (a school classroom, at home, at a workplace). Using observation, intertextual analysis, and interview meth-

ods, examine where, when, and how writing is typically done in that site, who participates in writing and at what points in the process, why people engage in writing, how texts (including drafts and notes) are produced and kept (or discarded), who reads the texts produced and why they do, and how texts draw on other texts.

FOR FURTHER READING

Early research on writing processes continues to be of value. Janet Emig's (1971) study is a seminal work in the field and introduced think-aloud methodologies. It also points to earlier literatures, such as the *Writers at Work* series of interviews from *Paris Review* (e.g., Plimpton, 1963). Donald Graves' (1983) collection features several early studies of the composing processes of young children. A series of studies (see, e.g., Flower & Hayes, 1981, 1984) that was associated with the Rhetoric program at Carnegie Mellon pursued writing processes in laboratory-like conditions (i.e., writers writing in an institutional space, like a classroom, for short periods of time on assigned research tasks). Analyses in this line of research drew heavily on cognitive processing models for studying differences in expert and novice knowledge.

Rymer (1989) attempted to extend the think-aloud design to naturalistic composing processes in a study of biologists writing (but found few were willing to engage in this approach while doing their actual work). Geisler (1994) extended the think-aloud design by asking paid participants to write more extensive texts over multiple episodes and by assigning tasks that sought to simulate typical academic writing tasks. Various later studies have employed other methodologies aimed at getting writers to externalize their thinking, either by setting up and recording peer group or collaborative writing situations in relation to course assignments (e.g., Flower et al., 1990; Syverson, 1999) or by taking advantage of naturally occurring discussions of texts in progress (e.g., Cross, 1994; Prior, 1998).

Matsuhashi's (1987b) collection brought together a variety of early observational studies of writing processes. This type of research seemed to recede in the late 1980s as researchers shifted to studying social contexts of writing and talk about texts. However, studies of workplace cognition, communication, and action have begun to present very close observational analyses of the functions and temporal character of writing. Goodwin and Goodwin (1996), Heath and Luff (2000) and several studies presented in Luff, Hindmarsh, and Heath (2000) offer detailed observations and recording of operations centers, tracing the complex interplay of talk and text across multiple channels and media.

A number of ethnographic and historical accounts of scientific knowledge have included rich observations of writing processes. Latour and

Woolgar's (1986) account of experimental practices in biochemistry at the Salk Institute focuses on the ways chains of inscription are produced and transformed in laboratories. In another biochemistry laboratory, Amann and Knorr-Cetina (1990) offer a more detailed look at ways that talk mediates the reading and interpretation of raw data and how interpretations are then transformed in writing. Gooding (1990) offers detailed mapping of experimental practice and writing. Bazerman (1999) offers close accounts of the ways laboratory notebooks mediated invention and led to other genres, including patents and publicity. Myers (1990) traces chains of genres in scientific work, especially the move from grant proposals to technical articles to popular reports.

Over the last decade, research on writing processes has shifted toward naturalistic studies of writing processes in diverse settings: communities (e.g., Kalman, 1999), schools (e.g., Dyson, 1997; Finders, 1997; Kamberelis, 2001), and workplaces (e.g., Beaufort, 1999; Cross, 1994). Most of these studies rely heavily on externalized collaborative activity as a window into the process. Some have also provided detailed tracing of series of texts. Finally, I would note that Kress (1997) offers a fascinating view of, and theoretical framework for, literacy development as part of a general multimodal, multimedia development of sign-using and sign-making. Several of his observations bear on processes by which children make semiotic objects, including texts.