3. The higher the ape goes, the more he shows his tail.
4. The moon does not heed the barking of dogs.
5. He measures another's corn by his own bushel.
6. Straws show which way the wind blows.
7. When the fish is caught, the net is laid aside.
8. Remove an old tree, and it will wither to death.
9. He that bites on every weed must needs light on poison.
10. Whether the pitcher strikes the stone, or the stone the pitcher, it is bad for the pitcher.
11. Think with the wise, but talk with the vulgar.
12. Eagles catch no flies.
13. When the fox preacheth, then beware your geese.
14. The wine in the bottle does not quench thirst.
15. Fools tie knots and wise men loose them.

14

The Longer Essay from Start to Finish

Throughout this book we have talked about how writing essays is a matter of thinking on paper, and we have said that thinking on paper is a matter of defining concepts, comparing them, distinguishing them, and clarifying relationships between them, partly by using words like *causes* or *is like*, and partly by using images to sharpen the way we see and think. It would be misleading, however, to leave the impression that some essays define, others compare and contrast, and others make distinctions or create metaphors. Few essays are ever "pure" types of one kind or another. The essayist uses combinations of those tactics to explore what he or she might think; to clarify a point; to carry out the analysis; to tease, cajole, intrigue the reader into reading that essay and agreeing with it, or at least entertaining what he or she finds there as possible ways of seeing some part of the world. If you simply flip through the pages of this book and reread some of the writings that we have looked at, you can see that even the shortest bits of writing seem to express connections, create and convey images, and do a dozen other things all at once. It must seem that the good essayist needs to be a good juggler, keeping several balls in the air, with one eye on the distinction he or she is making, and the other eye on the reader, trying to be sure the reader is following the essayist's train of thought. How can the essayist do all those things at once? How can the essayist discover what there is to say, say it, and be sure it is said clearly enough for a reader to follow—all at the same time? Obviously, the essayist cannot do all of those things at the same time. Nobody can. The object of this last chapter, then, is to break the writing process

down into steps or stages, all the while recognizing that writing a good essay is not the result of following a neat set of stages like prewriting, outlining, writing, and revising, but of learning how to take advantage of what are really the two most important stages of writing: the mess and the mystery.

By definition, because the writing process is made up of mess and mystery, no one can tell you exactly how your writing process works. But what I can do in this chapter is talk about what has worked for me and what has worked for other writers and, like the bio-feedback doctor, try to set conditions up so that you can discover for yourself what works best for you. One thing I do know is that writing well is more a matter of attitude than of skill, and the attitude most essential is that of welcoming the mess and the mystery that make up the writing process. The neatness of the finished essay, its wonderful coherence, logic, and organization, its orderly progression from one point to the next—all those things obscure the mess and the chaos from which the essay came, and in which it began. Essays never begin with a piece of blank paper, upon which you record an introductory sentence that comes to you whole, from above, almost as if it had been dictated to you by God. Opening sentences tend to come to you *last*, after the essay has been written, and long after your desk has become a blizzard of notes slips and scraps of paper and second and third and fourth drafts. If you are uncomfortable getting your hands dirty and your desk messy, you will cheat yourself out of the chance to discover something new and wonderful to say. Mess is material: material for thinking; for shaping into essays. Somehow Shoe, on the next page, at least *partly* understands this process.

A large part of the writing process is mess; another large part is mystery. We know that "writing" does not begin when we first put pen to paper. Instead, writing is actually only the final stage of a long process. Ideas are born, as we shall see, partly in the act of writing—writing itself generates them—but they are also born out of that rich, primordial slime where we alternatively go after them with our big guns (like definition, compare/contrast, distinction-making) and lie in wait for them to raise their heads out of the smoky swamp like some Nessy. The truth is that all of the lists of procedures in the world will not help you write better if you do not acknowledge that the idea, the hypothesis, the new

synthesis, the organization for an essay is likely to appear not so much as a result of applying a rigorous set of procedures, but just when you were not looking for it at all; as you stumbled half asleep to the front door at 4 A.M., to let the dog in, or out.

So in this chapter you will find an account of what I think is the sequence of stages necessary to write an essay, together with some exercises to get you as comfortable as possible passing through those stages. At the same time, however, I want to remind you that in some sense these stages are artificial; that is, they do not necessarily happen one after the other. They overlap. While you are still gathering material, you begin to write sentences or even paragraphs. But that phase tends to run dry, and you go back to reading. From there, you might begin to write longer passages that can be integrated into an essay. But at some point, you may discover that you cannot write more because of a gap in your information, and you need to read more. So you go back to the reading stage. Even in the last stages of writing, when you are polishing sentences, you might discover that finding just the right word changes the way you see your whole subject. At that point, you might backtrack from editing, to reformulate the whole essay. While reading something just for fun, something you think is entirely unrelated to what you are writing, you might stumble on exactly what you need to provide an introduction to your essay.

That messy and mysterious process by which ideas are born and shaped into an essay is described very well by Herbert Spencer, a nineteenth-century thinker whose work is thought to have been influential on Charles Darwin:

Herbert Spencer.
From his *Autobiography*

It has never been my way to set before myself a problem and puzzle out an answer. The conclusions at which I have from time to time arrived, have not been arrived at as solutions of questions raised; but have been arrived at unawares—each as the ultimate outcome of a body of thoughts which slowly grew from a germ. Some direct observation, or some fact met with in reading, would dwell with me: apparently because I had a sense of its significance. It was not that there arose a distinct consciousness of its general meaning; but rather that there was a kind of instinctive interest in those facts which have general meanings. For example, the detailed structure of this or that species of mammal, though I might willingly read about it, would leave little impression; but when I met with the statement that, almost without exception, mammals, even as unlike as the whale and the giraffe, have seven cervical vertebrae, this would strike me and be remembered as suggestive. Apt as I thus was to lay hold of cardinal truths, it would happen occasionally that one, most likely brought to mind by an illustration, and gaining from the illustration fresh distinctiveness, would be contemplated by me for a while, and its bearings observed. A week afterwards, possibly, the matter would be remembered; and with further thought about it, might occur a recognition of some wider application than I had before perceived; new instances being aggregated with those already noted. Again after an interval, perhaps of a month, perhaps of a half a year, something would remind me of that which I had before remarked; and mentally running over the facts might be followed by some further extension of the idea. When accumulation of instances had given body to a generalization, reflexion would reduce the vague conception at first framed to a more definite conception; and perhaps difficulties or anomalies passed over for a while, but eventually forcing themselves on attention, might cause a needful qualification and a truer shaping of the thought. Eventually, the growing generalization, thus far inductive, might take a deductive form: being all at once recognized as a necessary consequence of some physical principle—some established law. And thus, little by little, in unobtrusive ways, without conscious intention or appreciable effort, there would grow up a coherent and organized theory. Habitually the process was one of slow unforced development, often extending over years; and it was, I believe, because the thinking done went on in this gradual, almost spontaneous way, without strain, that there was an absence of those lines of thought which Miss Evans [George Eliot, a novelist and a friend of Spencer's] remarked—an absence almost as complete thirty years later, notwithstanding the amount of thinking done in the interval.

I name her remark, and give this explanation partly to introduce the opinion that a solution reached in the way decribed is more likely to be true than one reached in pursuance of a determined effort to find a solution. The determined effort causes perversion of thought. When endeavouring to recollect some name or thing which has been forgotten, it frequently happens that the name or thing sought will not arise in consciousness; but when attention is relaxed, the missing name or thing often suggests itself. While thought continues to be forced down certain wrong turnings which had originally been taken, the search is vain; but with the cessation of strain the true association of ideas has an opportunity of asserting itself (1:463–65).

So, as we can learn from Spencer's honest account, thinking and writing *are* messy and mysterious processes. His account suggests that a major part of writing is not following steps or stages, so much as it is just continuing to do it until something comes. Writing takes much more time than one might think. As Spencer's description suggests, it takes time to read. Time to think. Time to relax and let your subconscious do its work. Time to let rough drafts cool. Time to wait for the missing link that connects your miscellaneous ideas to come to you. Janet Emig, in *The Com-*

posing Processes of Twelfth Graders, discovered that people tend to choose a subject to write about on the basis of an intelligent guess about how much time they have to devote to the writing project. So if you find yourself writing about the simple thing instead of the more interesting and new and complex thing, you might consider that you are not giving yourself enough time for this musing and subconscious percolating that Spencer describes as essential to thinking and writing. Of course, no one ever has enough time to write the perfect essay, and no essay, by definition, is ever really "finished." Remember that to "essay" means to try, to attempt, to venture, to test out. So *all* essays are ventures that are not quite final. Alfred Kazin even calls the essay "the open form." Essays are always growing. They invite others to join in and respond with a further "essay," or attempt to understand something. Writing essays, then, demands a certain attitude: a willingness to try to shape material into a finished form, and a willingness to share what we called in the beginning of this book a "struggle into consciousness"with other people.

Now that we have said that there are stages or steps in writing the longer essay, and that there are particular attitudes appropriate to each stage, we might now look at each of those stages one at a time.

Stage 1: Beginning before the Beginning

As we have said, writing begins long before the pen touches the paper. For one thing, the good writer is the person who is interested in everything, who is interested and alert at all times, because he or she never knows when a particular bit of material will become useful or necessary—as an analogy, for contrast, for supporting evidence, as a demonstration of an equivalent instance of something he or she is talking about. Even subway riding can provide you with support you might need to make a point in an economics or sociology paper, or an essay you might want to write on television viewing habits of Americans. When Gore Vidal wanted to talk about how critics fail to criticize American art, thus creating the conditions for mediocrity, he referred to Warren

Harding, Dracula, and Diderot in the process. Only having a well-stocked mind, full of information, anecdotes, potential cross-connections, could have allowed him to do that. When Wilfred Sheed wanted to talk about W. C. Fields, he referred, among other things, to the D'Oyly Carte Opera Company and to Fred Astaire. William Henry learned something about the American psyche by watching Donald Duck. I hope that you and I learned something about the writing process by comparing writing essays to becoming an auto mechanic; by comparing the writing teacher to the doctor teaching bio-feedback techniques. I have learned more about how thinking and writing work by reading about science than I have in any other way. So the first "stage" of writing begins long before you even begin to think about writing a particular essay. It begins in a questing consciousness, a desire to know how things work, what things are, who people are, why things happened or happen, what makes things go, what makes *you* go: what catches your fancy, and why. If you have been keeping the writer's log I suggested at the beginning of this book, you should already have a fund of images, ideas, fancy-ticklers, material for analogies. That is the start of your material as a writer. I think you will want to continue writing in this log and collecting things in it for as long as you are interested in being a writer. If you feel uncomfortable using the log, try some alternative. Some writers collect note slips, bundled together by topic. Some write on anything that comes to hand: napkins, scraps of paper, paper bags. Charles Dickens kept a brown paper bag on the corner of his writing desk into which he stuffed all kinds of things that intrigued him and that he thought he might one day turn into material: snips of overheard dialogue, descriptions of the shape of a nose, the sworl of an ear, faces, gestures, costumes. You will want to find some means to hang onto things you can use for material as you write. It makes sense, if you think about it for a second: you can only write about what you have seen, heard, read about, experienced, observed, and the more you see, hear, read, experience, and observe, the more you have to write about; the less time you will spend at a desk staring at a blank piece of paper. Avoid the problem of the poor artist in the cartoon, on the following page,who does not seem to understand the need to go out into the world to gather material.

Stage 2: The Listening Habit

Not only do you need to watch everything and read everything you can, but you also need to *listen*. This seems elementary, and yet those whose business it is to solve problems often talk about how people need training in listening. George M. Prince, in *The Practice of Creativity*, talks a great deal about what he calls "the evaluative tendency" that keeps us from thoroughly understanding what other people propose as solutions to problems, or explanations of events. We are far too ready to judge what other people say and find it wanting, even before we have understood what they say. Prince suggests that we just try to understand: "Hold in abeyance your negative reactions temporarily" (p. 45), he suggests, whenever you read or hear a new idea. Instead he suggests that we think something like, "Well, maybe this is *partly* right. Maybe some of this is useful. If we adjusted this or that, we would have something." Cultivate that listening habit. Even more importantly, *listen to yourself*. Do not be overly critical in the early stages of thinking or writing. Think, again, "Well, parts of that idea are really muddy, but I might be able to play with it a little and make it better." In fifteen years of trying to help people learn to write better, I am still astonished at how tough on themselves beginning writers are. Before an idea is even half out of their mouths, they say "No, that's dumb." The good writer

is kind to himself or herself, and that kindness and courtesy includes simply listening to what the mind is trying to say.

Stage 3: Generating Material

If you are an observant, alert, listening, reading, thinking person, when the invitation or obligation to write comes along, you will be at least partially ready for it. In Stage 3, you will sift through your store of information, decide where you need to do research and more reading to fill in the gaps, and begin what some people call *brainstorming*, or *prewriting*. Scientists often call this the *data-gathering* or the *preparation* phase. Whatever we call it, it is characterized by a widespread search for material, and by the generation of as much material about the topic you are going to write about as time and energy allow. You might notice that this suggestion differs quite a bit from what many writing books tell you. One writing book I know of begins with its author telling writers that "the writer's first task is to narrow his topic." But obviously, the writer's first problem is to have enough material and possible things to say that he or she can *afford* to "narrow" the topic. This means you begin by generating so much material—maybe even three times more than you will eventually use— that you can afford to throw out much of it in a later stage. If you begin an essay by trying to squeeze out the ten pages you want to write from a meager store of ideas, you cannot allow youself to be selective; even worse, you will find yourself padding and repeating to get those ten pages.

Of course the kind of writing you are going to do determines the kind of material-gathering you do. If you are writing a research paper or an analysis for a course, common sense tells you that you will spend time in the library, taking notes and reading—with care and precision, as we have already learned to do—the things you are to write about. If the topic is one of your own choosing, and if conceptual analysis plays a part in what you are writing, as no doubt it will, you can do the kind of conceptual play that we have done here in nearly every chapter.

Writers of books about writing are fond of talking about "brainstorming" as a way of generating ideas. Brainstorming is simply jotting down anything and everything you can think of about a particular topic in order to find something to say. It is a tactic I have very mixed feelings about myself and cannot re-

member ever using, to be honest. It strikes me that there are two different attitudes one might have towards brainstorming. In one spirit, the writer might simply try to get hold of everything it might be possible to say about a topic. Out of that "chaos," the writer bundles together a sufficient amount of "stuff" to fill out the required number of paragraphs or pages. This seems to me a cynical and unsatisfying approach to the business of thinking and writing. But there is a second kind of brainstorming that might be more productive. You might jot down lists of things, freely and unconsciously, in order to discover how it is that you might already be thinking about your subject without having been fully conscious of doing so. In this kind of brainstorming, you do a kind of free association to get in touch with your own half-conscious thoughts. It may prove quite helpful, especially if you follow up the process with an intelligent attempt to gather the miscellaneous items in your list under useful conceptual headings.

80. Below is one student's brainstorming for the concept *maturity*. See if you can provide the potential organization for the essay that would follow from the brainstorming. You might even add seven or eight more terms to the student's list before you do this.

Maturity

age
responsibility
commitments
goals
understanding
ability to change
confidence
stages
personal
national
awareness
eighteen
the social
compromise
prime of life
intelligence
psychological
emotional
biological
moral
honesty
rational
sophistication
refined
urbane
change from idealistic
ripeness
patience
love, marriage
courage
sensible
tranquillity
actions
personality
relationships
vocabulary
purpose
sense of humor
choice
stability

81. Once you have generated as many terms as possible in your brainstorming, and have bundled those terms together as best you can, write a short essay inspired by *one* of those bundlings of terms.

82. Write another short essay inspired by a *different* gathering of terms. Notice that when you write an essay, you do not automatically consider using everything you can think of about that particular topic.

83. Do the same kind of brainstorming and essay-writing with another concept. You might want to try the word *censorship*. Notice this time too that you need to gather, as well as to generate, terms and that not everything you can think of about a topic "fits" into one essay.

Stage 4: Note-taking

As we have said, if you are doing a research paper or a paper analyzing readings you have read, brainstorming is not quite as helpful a tactic as is standard note-taking. However, most students I have worked with are unaware of how to take notes in the most useful way. Most simply jot down long quotations from sources they read. But this is a misunderstanding of the way note slips can work for you. Note slips can take a wide variety of forms. They can be:

1. Facts you gather
2. Quotations to support an argument or point you plan to make
3. Reminders or notes to yourself ("Don't forget to mention that . . . " or "Remember to defend this point in this way"). Some of these note slips might contain ideas about possible ways to organize your essay ("Do a history of the concept first, and then analyze it" or "Analyze the concept in the course of giving its history").
4. Questions to and for yourself. These questions can be of several kinds. They can be procedural ("Do I want to talk about *all* kinds of bonding I know of, or only about two or three?"). They can be about rhetorical strategies ("Should I mention the opposition to this point, or will doing that obligate me to make a long digression to argue down the opposition?"). They can be substantive ("Do I really believe psychoanalysis ought to address itself to. . . . ").

5. Some note slips will contain thoughts about a potential thesis statement. They will be a place and an occasion for you to do a kind of stock-taking. Where am I now in the writing/thinking process: What have I learned so far, and what do I *think* will be my approach when I write?

6. Some notes you will take simply to get yourself going, to start the adrenalin flowing, to get your mind thinking. Some researchers, Janet Emig for instance, have noticed that "sweat appears within two minutes of the presence of adrenalin in the blood," and that the literal act of writing, with the hand, is "activating, mobilizing. It physically thrusts the writer from a state of inaction into engagement with the process and the task." (Cooper and Odell, *Research on Composing*, p. 61.) This means that not just writing an essay, but *writing* an essay—the physical act of pushing the pen across the page—may in part bring ideas into your mind. The implications of this for you as a writer should be obvious: you do not wait to see what you think before you write, but you *write in order to help yourself think*. Walter Ong calls this "epistemic" writing, and you can begin to do it in the note-taking stage of writing the essay.

Because at this phase of writing the essay you do not yet know, by definition, exactly what your finished essay will look like, or even what it needs to become finished, it makes sense to take a great many more notes than you think you may need. You do not yet know what your main points will be, what kinds of support you will need for them, or what your approach to your topic will be. For that reason, you should be lavish in your note-taking. If necessary, photocopy whole pages, just in case you might find certain parts of those pages useful later. By all means, keep accurate records. Copy notes accurately and be sure the source and page number is marked on each note slip. Nothing is more frustrating than having to retrace your steps later, trying to find out where you found a particular point or quotation.

Remember, too, that you take notes partly to get yourself engaged with a subject, an author, a point of view. If you are taking notes from a book you are reading, do not be afraid to question, challenge, consider alternative hypotheses to those in it. All of those tactics for reading critically, generating questions,

imagining alternative explanations that we have talked about throughout this book should help you as you take notes.

84. Throughout this book, you have read short excerpts on a wide variety of topics: education, Christianity and slavery, liberty, cancer and tuberculosis, autonomy in a concentration camp and autonomy in the life of a cell in the body, criticism in the arts, induction and deduction in the sciences, and a whole host of other things. Choose one of those readings or references that would require you to do research if you were to respond to it intelligently, and do some preliminary reading and note-taking on its topic. Keep taking notes—of all the kinds described above—until you have a substantial number with which to work. Do some practice gatherings of those note slips. In a sentence or two, write up the potential thesis statements you could support with your note slips.

85. Choose the one gathering of note slips that appeals to you most and attempt at least the rough draft of the essay that would result from that gathering. Do *not* try to produce a finished, polished essay. The purpose of this exercise is only to allow you to see how the gathering of the notes allows you to create a shape for an essay.

Stage 5: Organizing the Notes

If you have done the exercises above, you can already see how important this next stage of the writing process is. To me, it seems that good essays are born or die during the stage in which notes are organized. As I have already said, there is no possible way in which your mind can keep all you need to know to write and organize an essay together without some help. There is no way in which your mind can master all the material you generate in order to see what organization you might use to convey it. To help your mind handle that unwieldy mass of material, you not only take notes (which are, as we said, your way of thinking-on-paper), but you physically stack, gather, and shuffle them. The shuffling is what allows you to see—to visualize—what all those materials might yield in the way of a new idea, a thesis statement, a relationship, a hypothesis. For this to work, however, you must

be absolutely sure to take your notes on note slips (preferably 4 × 6), rather than on full-size sheets of paper. Further, you must not ever take more than one note per note slip. I have seen students with notes of all kinds taken on full sheets of paper try to organize an essay, and they must go through a very frustrating and usually futile exercise in drawing circles and arrows around separate points, scissoring out half-pages and taping them to other half-pages. What they are trying to do is *see*—actually see—what ought to come first, second, and third in their essay. The easiest way to do that, of course, is simply to have one note per note slip, and to spread all of the note slips out in front of you to see what might go where. In my own experience, the sequence goes something like this:

1. You take the notes, of all the kinds named in Stage 4—and perhaps of a few additional kinds you discover yourself.

2. You spread them out on a large desk or table, reading through them and beginning to gather them together into stacks on the basis of a judgement you make about which ones seem to be about roughly the same thing, or to make a similar point.

3. You do a second gathering in which you make a judgement about which of those separate, first gatherings might themselves constitute a subheading under a still larger heading. This process is difficult to talk about or understand in the abstract, but I can give you an example of how it worked for one student. He was writing an essay about Stephen Crane's story "The Blue Hotel" and began by taking notes on the story that revealed that it contained much violence, both submerged and actual. But he discovered that some of the notes he seemed driven to take were not about violence, but about lies or deception in the story. As he bundled and rebundled his note slips, he discovered that both the "violence" bundle and the "deception" bundle could be gathered together under one heading: the story really seemed to say "Deception generates violence." This thesis statement grew out of the bundling and rebundling process, and I doubt that he could have arrived at that thesis he had not been able to *see*—literally see—the two stacks of note slips in front of him.

4. What this last account suggests is that if, as many researchers (such as Janet Emig) have discovered, the physical act of writing things down helps you to think, it is also true that the physical act of shuffling note slips can help to bring ideas to you. It can certainly, at the very least, help you see how you might organize your ideas and put you in control of what is in my own experience the most frustrating and frightening part of the writing process: that time in which you have lots of material—on your table or desk, written in the margins of books—but absolutely no idea of how to organize all those helter-skelter half-formed ideas and hunches.

5. In this act of grouping and regrouping note slips, you will also practice some selectivity. Some slips simply will refuse to fit into any of the groupings you can imagine, and those will be rejected. However, you can never be sure that they will not eventually work themselves into the essay, so you should never throw them away. Nothing is more frustrating than finding, in the actual writing of your essay, that you *now* can see exactly where a certain idea or quotation can fit, and discovering, too late, that that note has been carried away with the trash. Put the note slips you do not think you will use aside, with a rubber band around them, and save them "just in case."

Stage 6: The Incubation Phase

What happens if you have done all this preliminary research and gathering and shuffling and bundling, and you *still* do not have a thesis forming? This is a tricky problem, for you cannot strangle the Muse and force her to give you an idea. But it helps to know what is happening in you at this phase, if only so that you might be better able to make it work for you.

This phase is called, for better or worse, the "incubation" phase, and it marks the end of what I have called "the mess" end of the writing process and the beginning of "the mystery" end.

It is a distressing phase to live with, and the only consolation the writer has is that eventually it ends, with what scientists call the "Eureka" experience, and mathematician Martin Gardner calls the "Aha!" phase. In my experience, this is the stage during which many students give up and choose a new topic, because they feel they are at a dead end, and just can not see how they can possibly organize the material they have gathered into an essay. But in fact, this is the stage during which there is not much that you can do. What you need to do, having done all the research and thinking and note-taking and brainstorming possible, is simply *lie in wait* for the idea to come to you. And by "idea," here, you understand by now that we mean the order in which you can present your facts in such a way that they constitute a new idea. That idea will come to you from somewhere on the fringes of your consciousness, and undoubtedly when you least expect it. The good writer even has several notions, several hunches incubating at the same time, so that if one thing does not "come together" in time, he or she has others that will.

What is happening during this stage of writing? What *is* this stage of writing? If you tried the exercises at the end of Chapter 6, you watched your own mind shape hunches or "itches" into ideas. You know that you—as do all people—have not only a conscious, thinking mind, but a less accessible part of your mind that is nonetheless thinking—in its own way—all the time. It is this part of the mind that philosopher William James called the "fringe consciousness," and Arthur Koestler and others call the "ante-consciousness." Especially in Koestler's way of describing this part of the mind, we can think of it as a kind of hallway or chamber passing between our conscious and our unconscious. It is there that new ideas form, and because this is so, it helps for the writer to try to foster a special kind of awareness of that special place; it helps for the writer to listen closely to catch those ideas, even though they whisper rather than shout. As far back as Plato, thinkers have said that we must already know something before we can discover it. We have to have some hunch or itch and then let it work itself into our conscious mind. Stories of this process happening among thinkers and writers are easy to find. "One evening," says Henri Poincaré the mathematician, "contrary to my custom, I drank black coffee and could not sleep. Ideas rose in crowds, I felt them collide until pairs interlocked,

so to speak, making a stable combination" (Hadamard, p. 14). It was during what Edgar Allen Poe called the "hypnagogic state," the state between waking and sleeping, that the new idea came. This is often the case. If we want to fall asleep, we do not think about falling asleep; we let our mind wander freely. If we want to catch hold of an idea, we do not focus on the idea; we do what some people call "looking aside." We direct our attention elsewhere and let the idea come to us. If we want to think of a solution to a problem, we partly think about it, and we partly "sleep on it." The "sleeping on it" is as essential to the process as is the active thinking. If you want to dream, go to bed with a half-

"IF IT WANTS TO DREAM, WE COULD GIVE IT SOME VAGUE, UNSTRUCTURED PROBLEM TO MULL OVER DURING THE NIGHT."

shaped idea that needs to be sharpened; if you want to find the thesis that will pull your half-formed ideas together, go to sleep. As Jacques Hadamard describes it:

> It most often happens that such a result [the half-formed idea] needs to be digested, or, to say it differently, to be classed in

have, rather, replaced each other sequentially, with one now in the ascendancy, the other eclipsed.

The first, inductivism, held that great scientists are primarily great observers and patient accumulators of information. New and significant theory, the inductivists claimed, can only arise from a firm foundation of facts. In this architectural view, each fact is a brick in a structure built without blueprints. Any talk or thought about theory (the completed building) is fatuous and premature before the bricks are set. Inductivism once commanded great prestige within science and even represented an "official" position of sorts, for it touted, however falsely, the utter honesty, complete objectivity, and almost automatic nature of scientific progress toward final and incontrovertible truth.

Yet, as its critics so rightly claimed, inductivism also depicted science as a heartless, almost inhuman discipline offering no legitimate place to quirkiness, intuition, and all the other subjective attributes adhering to our vernacular concept of genius. Great scientists, the critics argued, are distinguished more by their powers of hunch and synthesis than by their skill in experiment or observation. The criticisms are certainly valid and I welcome the dethroning of inductivism during the past thirty years as a necessary prelude to better understanding. While attacking inductivism so strongly, some critics have tried to substitute an alternative "eureka" view of scientific creativity. (The name refers, of course, to the legendary story of Archimedes running naked through the streets of Syracuse shouting "Eureka" [I have discovered it] when water displaced by his bathing body washed the scales abruptly from his eyes and suggested a method for measuring volumes.) In this eureka view, creativity is an ineffable something, accessible only to persons of genius. It arises like a bolt of lightning, unanticipated, unpredictable, and unanalyzable—and the bolts strike only a few special people. We ordinary mortals must stand in awe and thanks.

I am equally disenchanted by both these opposing extremes. Inductivism reduces genius to dull, rote operations; eurekaism elevates it to an inaccessible status, more in the domain of intrinsic mystery than in a realm where we might understand and learn from it. Might we not marry the good features of each view and abandon both the elitism of eureka and the pedestrian qualities of inductivism.

In the hagiography of science, a few men hold such high positions that all arguments about creativity must apply to them if they are to have any validity. Charles Darwin, as the principal saint of evolutionary biology, has therefore been presented both as an inductivist and as a primary example of eureka. I will attempt to show that these interpretations are equally inadequate and that recent scholarship on Darwin's own odyssey toward the theory of natural selection supports an intermediate position.

So great was the prestige of inductivism in his own day that Darwin himself fell under its sway and, as an old man, falsely depicted his youthful accomplishments in its light. In an autobiography, which was written as a lesson in morality for his children and not intended for publication, he penned some famous lines that misled historians for nearly a hundred years. Describing his path to the theory of natural selection, he claimed:

"I worked on true Baconian principles, and without any theory collected facts on a wholesale scale."

The inductivist interpretation focuses on Darwin's five years aboard the *Beagle* and views his transition from a student for the ministry to the nemesis of preachers as a result of his keen powers of observation applied to the whole world. Thus, the traditional story goes, Darwin's eyes opened wider and wider as he saw, in sequence, the bones of giant South American fossil mammals, the turtles and finches of the Galápagos, and the marsupial fauna of Australia. The truth of evolution and its mechanism of natural selection crept up gradually upon him as he sifted facts in a sieve of utter objectivity.

The inadequacies of this tale are best illustrated by the falsity of its conventional premier example—the so-called Darwin's finches of the Galápagos. We now know that although these birds share a recent and common ancestry on the South American mainland, they have radiated into an impressive array of species on the outlying Galápagos. Few terrestrial species manage to cross the wide oceanic barrier between South America and the Galápagos. The fortunate migrants often find an island devoid of the competitors that limited their opportunities on the crowded mainland. Hence, the finches evolved into roles normally occupied by other birds and developed their famous set of adaptations for feeding—seed crushing, insect eating, even grasping and manipulating a cactus needle to dislodge insects from plants. Isolation, both from the mainland and among the islands themselves, provided an opportunity for separation, independent adaptation, and speciation.

According to the traditional view, Darwin discovered these finches, correctly inferred their history, and wrote the famous lines in his notebook: "If there is the slightest foundation for these remarks the zoology of Archipelagoes will be worth examining; for such facts would undermine the stability of Species." But, as with so many heroic tales, from Washington's cherry tree to the piety of Crusaders, hope rather than truth motivates the common reading. Darwin found the finches to be sure. But at the time he did not recognize them as variants of a common stock. In fact, he didn't even record the island of discovery for many of them; some of his labels just read "Galápagos Islands." So much for his immediate recognition of the role of isolation in the formation of new species. He reconstructed the evolutionary tale only after his return to London, when a British Museum ornithologist correctly identified all the birds as finches.

The famous quotation from his notebook refers to Galápagos tortoises and to the claim of native inhabitants that they can "at once pronounce from which Island any Tortoise may have been brought" from subtle differences in size and shape of body and scales. This is a statement of different, and much reduced, order from the traditional tale of finches. For the finches are true and separate species—a living example of evolution. The subtle differences among tortoises represent minor geographical variation within a single species. It is a jump in reasoning, albeit a valid one as we now know, to argue that such small differences can be amplified to produce a new species. All creationists, after all, acknowledged geograph-

ical variation (consider human races), but argued that the differences could not proceed beyond the rigid limits of a created archetype.

I don't wish to downplay the pivotal influence of the *Beagle* voyage on Darwin's career. It gave him space, freedom, and time to think in his favored mode of independent self-stimulation. (His ambivalence toward university life and his middling performance there by conventional standards reflected his unhappiness with a curriculum of received wisdom.) He writes from South America in 1834: "I have not one clear idea about cleavage, stratification, lines of upheaval. I have no books, which tell me much and what they do I cannot apply to what I see. In consequence I draw my own conclusions, and most gloriously ridiculous ones they are."

The rocks and plants and animals that he saw did provoke him to the crucial attitude of doubt—midwife of all creativity. Sydney, Australia, 1836. Darwin wonders why a rational God would create so many marsupials in Australia since nothing about its climate or geography suggests any superiority for pouches: "I had been lying on a sunny bank and was reflecting on the strange character of the animals of this country as compared to the rest of the World. An unbeliever in everything beyond his own reason might exclaim, 'Surely two distinct Creators must have been at work.' "

Nonetheless, Darwin returned to London without an evolutionary theory. He suspected the truth of evolution but had no mechanism to explain it. Natural selection did not arise from any direct reading of facts during the *Beagle's* voyage, but from two subsequent years of thought and struggle as reflected in a series of remarkable notebooks that have been unearthed and published during the past twenty years. In these notebooks we see Darwin testing and abandoning a number of theories, pursuing a multitude of false leads—so much for his later claim about recording facts with an empty mind. He read philosophers, poets, and economists, always searching for meaning and insight—so much for the notion that natural selection arose inductively from the *Beagle's* facts. Later he labeled one notebook as "full of metaphysics on morals."

Yet if this tortuous path belies the Scylla of inductivism, it has engendered an equally simplistic myth, the Charybdis of eureka. In his maddeningly misleading autobiography, Darwin does record a eureka and suggests that natural selection struck him as a sudden, serendipitous flash after more than a year of groping frustration:

> In October 1838, that is, fifteen months after I had begun my systematic inquiry, I happened to read for amusement Malthus on Population, and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favorable variations would tend to be preserved, and unfavorable ones to be destroyed. The result of this would be the formation of new species. Here, then, I had at last got a theory by which to work.

Yet, again, the notebooks belie Darwin's later recollections—in this case by their utter failure to record, at the time it happened, any special exultation over his Malthusian insight. He inscribes it as a fairly short and sober entry without a single exclamation point, although he habitually used two or three in moments of excitement. He did not drop everything and reinterpret a confusing world in its light. On the very next day, he wrote an even longer passage on the sexual curiosity of primates.

The theory of natural selection arose neither as a workmanlike induction from nature's facts nor as a mysterious bolt from Darwin's subconscious, triggered by an accidental reading of Malthus. It emerged instead as the result of a conscious and productive search, proceeding in a ramifying but ordered manner, and utilizing both the facts of natural history and an astonishingly broad range of insights from disparate disciplines far from his own. Darwin trod the middle path between inductivism and eurekaism. His genius is neither pedestrian nor inaccessible.

Darwinian scholarship has exploded since the centennial of the *Origin* in 1959. The publication of Darwin's notebooks and the attention devoted by several scholars to the two crucial years between the *Beagle's* docking and the demoted Malthusian insight has clinched the argument for a "middle path" theory of Darwin's creativity. Two particularly important works focus on the broadest and narrowest scales.

Howard E. Gruber's masterful intellectual and psychological biography of this phase in Darwin's life (*Darwin on Man*, E.P. Dutton, 1974) traces all the false leads and turning points in Darwin's search. Gruber shows that Darwin was continually proposing, testing, and abandoning hypotheses, and that he never simply collected facts in a blind way. He began with a fanciful theory involving the idea that new species arise with a prefixed life span and worked his way gradually, if fitfully, toward an idea of extinction by competition in a world of struggle. He recorded no exultation upon reading Malthus, because the jigsaw puzzle was only missing a piece or two at the time.

Silvan S. Schweber has reconstructed, in detail as minute as the record will allow, Darwin's activities during the few weeks before Malthus ("The Origin of the *Origin* Revisited," *Journal of the History of Biology*, vol. 10). He argues that the final pieces arose not from new facts in natural history, but from Darwin's intellectual wanderings in distant fields. In particular, Darwin read a long review of social scientist and philosopher Auguste Comte's most famous work, the *Cours de philosophie positive*. He was particularly struck by Comte's insistence that a proper theory be predictive and capable of making quantitative statements.

He then turned to Dugald Stewart's *On the Life and Writing of Adam Smith*, and imbibed the basic belief of the Scottish economists that theories of overall social structure must begin by analyzing the unconstrained actions of individuals. (Natural selection is, above all, a theory about the struggle of individual organisms for success in reproduction.)

Then, searching for quantification, he read a lengthy analysis of work by the most famous statistician of his time—the Belgian Adolphe Quetelet. In the review of Quetelet, he found, among other things, a forceful statement of Malthus's quantitative claim—that population would grow geometrically and food supplies only arithmetically, thus guaranteeing an intense struggle for existence. In fact, Darwin had read the Malthusian statement several

times before; but only now was he prepared to appreciate its significance. Thus, he did not turn to Malthus by accident, and he already knew what it contained. His "amusement," we must assume, consisted only in a desire to read in its original formulation the familiar statement that had so impressed him in Quetelet's secondary account.

In reading Schweber's detailed account of the moments preceding Darwin's formulation of the theory of natural selection, I was particularly struck by the absence of deciding influence from his own field of biology. The immediate precipitators were a social scientist, an economist, and a statistician. If genius has any common denominator, I would advocate breadth of interest and the ability to construct fruitful analogies between fields.

In fact, I believe that the theory of natural selection should be viewed as an extended analogy—whether conscious or unconscious on Darwin's part I do not know—to the laissez-faire economics of Adam Smith. The essence of Smith's argument is a paradox of sorts: if you want an ordered economy providing maximal benefits to all, then let individuals compete and struggle for their own advantages. The result, after eliminating the inefficient and appropriate sorting of the rest, will be a stable, harmonious polity. Apparent order arises naturally from the struggle among individuals, not from predestined principles or higher control.

We know that Darwin's uniqueness does not reside in his support for the idea of evolution—scores of scientists had preceded him in this. His special contribution rests upon his documentation and upon the novel character of his theory about how evolution operates. Previous evolutionists had proposed unworkable schemes based on internal perfecting tendencies and inherent directions. Darwin advocated a natural and testable theory based on immediate interaction among individuals (his opponents considered it heartlessly mechanistic). The theory of natural selection is a creative transfer to biology of Adam Smith's basic argument for a rational economy: the balance and order of nature does not arise from a higher, external (divine) control or from the existence of laws operating directly upon the whole, but from struggle among individuals for their own benefits (in modern terms, for the transmission of their genes to future generations through differential success in reproduction).

Many people are distressed to hear such an argument. Does it not compromise the integrity of science if some of its primary conclusions originate by analogy with contemporary politics and culture rather than from data of the discipline itself? In a famous letter to Engels, Karl Marx identified the similarities between natural selection and the English social scene:

> It is remarkable how Darwin recognizes among beasts and plants his English society with its division of labor, competition, opening up of new markets, "invention," and the Malthusian "struggle for existence." It is Hobbes' *bellum omnium contra omnes* (the war of all against all).

Yet Marx was a great admirer of Darwin—and in this apparent paradox lies resolution. For reasons involving all the themes I have emphasized here—that inductivism is inadequate, that creativity demands breadth, and that analogy is a profound source of insight—great thinkers cannot be divorced from their social background.

But the *source* of an idea is one thing; its *truth* or *fruitfulness* is another. The psychology and utility of discovery are very different subjects indeed. Darwin may have cribbed the idea of natural selection from economics, but it may still be right. As the German socialist Karl Kautsky wrote in 1902: "The fact that an idea emanates from a particular class, or accords with their interests, of course proves nothing as to its truth or falsity." In this ironic case, Adam Smith's system of laissez-faire does not work in his own domain of economics, for it leads to oligopoly and revolution, rather than to order and harmony. Struggle among individuals does, however, seem to be the law of nature.

Many people use such arguments about social context to ascribe great insights primarily to the indefinable phenomenon of good luck. Thus, Darwin was lucky to be born rich, lucky to be on the *Beagle*, lucky to live amidst the ideas of his age, lucky to trip over Parson Malthus—essentially little more than a man in the right place at the right time. Yet, when we read of his personal struggle to understand, the breadth of his concerns and study, and the directedness of his search for a mechanism of evolution, we can understand why Pasteur made his famous quip that fortune favors the prepared mind.

Stage 7: Forming or Shaping the Hypothesis: Getting the Thesis Statement

Once the incubation phase ends, you should have the beginnings of some fairly clear notions of what your subject is going to be, of the approach you want to take with it, and its range ("I'm not going to talk about censorship in movies, but about censorship in newspapers"). To find the *specific* form of your thesis statement, however, takes some conscious work, and there are some tactics you can use and some questions you can ask yourself to discover the most precise and satisfying form that thesis statement might take. With all of your note slips in mind and in hand, then, and with all of your research and reading behind you, you can begin answering such questions as those I have listed below.

One of the secrets to success at this stage is not just sitting and thinking about what your thesis is, but actually doing some writing, including writing out answers to the kinds of questions

listed below. At this stage, you are not yet "writing the essay," but you are writing preliminary forays, paragraphs, hunches that are on their way to becoming an essay. And you proceed this way for two reasons. First, writing "just for my own eyes, to see what and how I'm thinking or might be thinking" is a tactic for avoiding the horrible paralysis that can come when the writer sits down and realizes "This is it! I'm actually *writing the essay*!" What you need is a kind of transitional stage to ease you into the writing of a rough draft, and writing tentative hypotheses, possible paragraphs, and what scientists call "relay reports" (summaries of what you have now, and where you might go with that material in a next step) are all ways of easing you into a rough draft. It is a much shorter and easier step from this stage to a rough draft and a final essay than it is from a blank page to a finished essay. (And, of course, you never know how many of those more casual sentences you toss off at this stage might work their way into your final essay.)

You also write up tentative hypotheses and answers to questions at this stage for another reason: to be able to *see* what you are thinking. People who have video-taped writers writing are not surprised to discover that good writers pause, scan, and reread what they have written much more frequently than do poor writers. Good writers know that seeing what they have written is a way of seeing what they may want to write next. Jean Paul Sartre gave up writing entirely when his left eye was hemorrhaging (his right eye had been bad from birth), because, he said, "I cannot see what I write." For him, writing was a way of seeing what he was thinking. I think writing works this way for everyone, so at this stage of the writing process, writing up preliminary hunches allows you to *see* what you may be thinking, to test out ways of saying things on paper, and to do that without penalty and without fear of being awkward or "wrong."

To see what you might want to say, try answering the questions below, or following the procedures suggested. Remember these are to be done *on paper.*

1. Never insist, during this stage of writing, that a solution be complete. Never insist that a possible thesis statement or hypothesis be an absolutely precise one. Ask yourself questions like these: "Are there *any parts* of this thesis that I might want to, or be able to, work with?" "Are there any parts of this thesis that could be expanded? Refined? That might be incorporated into a more comprehensive thesis statement later?"

2. Venture a statement that *might* turn out to be the thesis for the essay: "Conrad's novel is X, X, and X, but not Y." Then, do what Synectics people call the "Itemized Response" tactic. That is, venture the statement and then write down three reasons why you like that idea, or why you might be able to work with it. Your sentences might be something like, "I like this thesis because it will allow me to write a short paper rather than a long one." Or, "I won't have to do any research if I use this thesis." Or, "I already have an interest in X, so this essay will allow me to do some digging I'd like to do anyway."

3. As you generate potential thesis statements or hypotheses, try to articulate to yourself what each such statement will and will not allow you to do and say. For instance: "If I start here, I won't be able to talk about X"; "Connecting A and B will allow me to make a digression and talk about C as well, which I'd really like to do anyway."

4. At the same time, once you have a partial answer or tentative thesis statement, try what the Synectics people call a "wish/goal" process. State to yourself what you want this thesis to do that it is not doing yet: "I wish this thesis would allow me to talk about A, B, and C, as well as about D, E, and F." Expressing the wish, they say, often makes it easier for you to find the way that *will* allow you to say what you want to say.

5. All the while that you are forcing potential thesis statements, also force yourself to come up with tentative titles for this essay. For many beginning writers, a title is an afterthought. But a title is a way of seeing what you are writing, and it may help you shape the materials you have if you imagine a title that pulls them all together. This tentative title will change, of course, maybe as many as five times. But each title encapsulates one way of seeing what you are doing.

6. Each time you think of a potential thesis statement, allow yourself time to explore it *thoroughly* before you abandon it and go on to another. Most people are far too impatient with their own fledgling ideas and do not give them a chance to develop into something sharp and fine. Do not be too critical of new ideas too soon. Give them a chance. By all means, write them down and stand back and look at them before you reject them. As we have said time and again, the physical act of writing them down may well generate refinements in them, and even help them grow.

7. If you are at a loss for a thesis statement to use in writing an essay in response to some material you have read, consider that you may be able to improve upon the ideas you have read that you find to be only partially accurate, partially satisfactory. You need not completely disagree with a writer, but maybe you can see where he or she is partly right, partly wrong. An exploration of the ways in which that writer is partly right and partly wrong can become your essay.

8. If your ideas seem to be going off in two different directions at once, do not arbitrarily decide to throw out one of those sets of ideas. It may be, and often is, that the two apparently different subjects are related quite closely. Remember what we have said about forcing connections between concepts. Try generating a thesis statement that comprehends these apparently disparate ideas by going through the procedures we have used throughout this book, especially in Chapters 3, 9, 10, 11, 12, and 13. All of those exercises we did—including conceptual play in which you tried to discover how X is like Y, and in which you played with definitions, metaphors, analogies, making distinctions and connections—should be useful at this stage of writing. If necessary, go back through the book and look over all those questions on concepts again, checking to see which ones might help you see your way to a thesis statement.

9. When you are looking for connectors between apparently unrelated things, never underestimate the power of common sense. A physician at UCLA has been exploring the nature and function and effects of Beta Endorphin in the brain. Beta Endorphin is a natural pain killer produced by the body and is much more powerful than morphine. She reasoned that this being so, the levels of Beta Endorphin in the body might be expected to rise during pregnancy and reach a peak at about the onset of labor. She tested the hypothesis. She was right. No amount of reading or research could have yielded that hypothesis; common sense did.

10. If all of your materials seem to be swirling through your head and not settling into anything remotely resembling a thesis statement, try talking out your ideas with a friend. This is not to say that talking and writing are the same skills, but that a person who has some distance from your materials can sometimes provide the magical question that will pull it all together for you. Talk about your fledgling ideas with someone else, and you might find them clarifying and sharpening as you talk. If you are lucky enough to find a listener who will respond with something like "Yes, but what about. . . .," all the better for you. In the act of explaining and defending your ideas to another person, you are also explaining and defending them to yourself.

11. I have said that you do not want to be in too great a hurry to throw out some of your material even though it appears that you are going in two directions at once, because it might turn out that those two separate directions are really two separate parts of a coherent thesis. But if, after a reasonable length of time, you cannot get the two to come together, consider selecting one set and abandoning, at least temporarily, the other set. It becomes, in other words, a time to practice some kind of *selectivity*. As Elisio Vivas says in *Creation and Discovery:* "The artistic process does not consist in lowering a bucket into the muddy current of the actual and emptying all one picks up into a book. The artist must wait till the bucket settles before he can hope to catch the elusive silvery animals that shall make his feast. It is, in plain terms, a process of discrimination and selection" (pp. 24–25).

Of course you will notice that Vivas expresses his idea through an image—just as we did in Chapter 13. But you will also notice that as a writer, selecting will be as important to you as is combining. When you decide, for instance, to write about "censorship," it is not at all true that everything you know or can possibly imagine about censorship immediately becomes a part of your essay. As Daniel Dennett says in his book *Brainstorms*: "It takes two to invent anything: The one makes up combinations; the other one chooses, recognizes what he wishes and what is important to him in the mass of the things which the former has imparted to him" (p. 71). So in a way you have two minds: one that generates material, and another that decides which parts of that material you can and should use, and which you cannot. One mind gathers; the other selects from what you have gathered only the best and most useful. If you decide to write an essay on censorship, the one part of your mind gathers together all you know or can think of on the subject; the other part decides which things are relevant to your thesis, and which things to throw out.

12. What if you have read all the materials you could read, done all of the research, and are still without any notion of what you might use for a thesis statement? In such a case, it may help you to run through all of the practices and procedures we have played with throughout this book. In short, you may want to ask questions like these:

    1. What would you like to *call* the phenomenon you have been reading about, and why? (Go back to Chapters 3 and 8 especially for further inspiration, if necessary.) Do you like the writer's namings (or conceptions) for things? Why or why not? A thorough discussion of why you do or do not like the namings can become your essay. Even if you like them, do you think they could benefit from being sharpened?

    2. How are A and B related? That is, how is this phenomenon/attitude/habit/person related to that phenomenon/attitude/habit/person? Or how is this idea related to some other idea it does not seem to resemble, but *does* resemble, in origin, function, purpose, or effect?

    3. We have talked a good bit about words like *source, nature,* and *function.* Put them to work for you as you look for your thesis. Ask yourself, "What does that X do?" What, that is, is the function of that myth/phrase/habit/response/behavior/law/point of view? Where does it come from? How did it happen? What caused it?

    4. We have also talked about *context.* Put what you know about context to work for you as you look for your thesis. Ask yourself: Why would this writer make the assertions he or she does? What are the suppositions underlying his or her writings? Or, what are the assumptions underlying this essay/theory/behavior/assertion? Do you *like* these assumptions? Why or why not?

    5. What is the *range of convenience* of the idea you have just read about? That is, does the thing apply more widely than the writer recognized? More narrowly?

    6. Is this phenomenon/attitude/habit/theory part of some larger entity, and if so, what *is* that larger entity? Here, you will be thinking about relationships like part to whole, and saying that, for instance, a certain phenomenon is really not a separate phenomen, but a part of another, larger phenomenon. In such a case, your essay becomes an exploration of that relationship of part to whole. For instance, is the Moral Majority's concern for controlling sex and violence on television a separate, isolated concern, or is it really a part of a larger picture, and if so, what is that larger issue, as you see it?

    7. *Whole and part* is only one set of oppositions that a thinker and writer might use to arrive at a new idea. Other useful, generative oppositions are these: alive/dead; small/great; anterior/posterior; minor/major, in/out; field/ground; central/peripheral; then/now; present/future; surface/substance; apparent/real. Think

of others. Imagine an essay that is structured in this way: "The apparent cause for X is Y, but the real cause for X is. . . ." Or, "In the past, religion functioned as an X, but now it seems to function as. . . ." Or, "What captures the viewer's attention when he or she looks at this painting is X, but what is also important is. . . ." All of these are essays that are inspired by thinking of such oppositions.

8. We have played a good bit throughout this book, and especially in Chapter 7, with causal connections. You might find your thesis by considering such questions as: "How did this phenomenon/attitude/habit happen? What caused it? How was it created or generated? What circumstances combined to cause it? Whose fault was it? Reread the excerpts of writings in Chapter 7 to see the range of possibilities for the writer who analyzes causes in his or her essay.

9. If you are writing about another person's theory or explanation, you might find your essay topic by considering the *implications* of the writer's theory, hypothesis, or idea, as we did with Roger Brown's excerpt in Chapter 3.

10. One way of discovering a new idea is to turn an existing way of thinking about a phenomenon on its head. Reverse the usual causality. Psychologists have assumed that REM (Rapid Eye Movement) sleep is evidence that the sleeper is dreaming, and that the dreams are causing the rapid eye movements. But in a recent *Science '80* article, some scientists proposed that it is not dreams that cause REM, but the reverse; that is, the eyes move of their own accord, for physiological reasons, and the unconscious feels compelled to provide a narrative that explains the movement of the eyes. These scientists may be correct or incorrect. The point is that the reversal of the usually accepted causality provides a new way of thinking about an old problem or issue and may yield a new idea better than the old one.

11. You might go back to Chapter 11 and review the exercises you did on making distinctions. You might discover that you can find the subject for your essay by making a discrimination between any two things in your data—two facts that have not been distinguished before. It is not X, you will say, that is responsible for Y, but something else. Your essay will be an explanation, justification, and defense of that position.

12. You might focus on the one detail that you encounter that seems to disprove a current theory; the one bit of evidence that does not seem to fit may yield the new idea or new hypothesis, no matter how preposterous that bit of evidence may seem. Here is one of my favorite stories in which that happens:

    "In 1795 Lalande failed to discover the planet Neptune, although the logic of events should have led him to it. Lalande was making a map of the heavens. Every night he would observe and record the stars in a small area, and on a following night would repeat the observations. Once, in a second mapping of a particular area, he found that the position of one star relative to others in that part of the map had shifted. Lalande was a good astronomer and knew that such a shift was unreasonable. He crossed out his first observation of the shifting point of light, put a question mark next to his second observation, and let the matter go. And so, not until half a century later did Neptune get added to the list of planets in the solar system. From the aberrant movement, Lalande might have made the inference not that an error had been made but that a new planet of the solar system was present. But he was reasonable. And it was more reasonable to infer that one had made an error in observation than that one had found a new planet" (Bruner, Goodnow, and Austin, *A Study of Thinking*, pp. 104–5).

    Consider that an irritatingly inconsistent bit of evidence might also yield a new idea for you—even when that bit of evidence is much simpler: "Why, of all of

my brothers and sisters, does only one have drive or ambition?" is a question that might lead you to a new discovery: about yourself, your family; even about people in general.

13. Sometimes, in desperate circumstances in which you simply cannot get your materials to yield a thesis statement, you can find your way out of that difficulty if you simply write a *narrative* of the difficulties you have had with your subject. That narrative can *become* your essay: "When I first began to think about X, I thought that . . . but as time went on, it became clear to me that. . . ."

14. As you think about a possible thesis statement, you will find your job made much easier if you force yourself to predicate. You should force yourself to move from statements like "I'm writing about censorship," to statements with a verb: "Censorship [verb]." "Censorship *inspires* fear. Or trust." Or whatever you want to say.

15. Scan your preliminary scribblings for words that may in any way be construed as vestigial images. (Remember, an *image* is simply a word that can be pictured.) Those images may be trying to tell you something about a form or state of relatedness of which you are not yet fully conscious. We played with relationships expressed in images in Chapter 13, but sometimes such images are hard to tease out, especially when they are in your own sentences, and when they have almost become so common that we cease to be aware that they even are images. Look for words like *links, aspects, masks, involves,* or phrases like *revolves around, flows from, is a key to.* Once you have isolated them, think hard about what *kind* of link or aspect you might be thinking of. Some links are couplings that connect pipes and do not impede the flow between one section of pipe and another. Other links connect two objects, but prohibit free passage between the links. If your image is "links," you might learn something from that image. If your image is

aspects, then think about what aspects (or faces) your phenomenon has. Tease out the implications of those vestigial images, and you will be closer to knowing how you are thinking.

16. Scan your preliminary scratchings for words that seem highly charged in your own mind. A friend of mine is always writing about "the imagination," and yet he has never tried to define what he means by that. Try to see where charged words are in your writings. Get hold of them, wrestle with them, clarify them. They may turn out to be the subject for your essay.

17. In your preliminary writings, there is often one spot at which you touch upon a subject or issue and then pass quickly on to something else because, as students often say, "I don't want to get into that." As often as not, the thing they "don't want to get into" is precisely the thing that would be most interesting and useful and new to write about. When you find such a germ of a new idea, grab it, work with it, clarify it, cultivate it. It might turn out to be the subject for the best essay you ever wrote.

18. Finally, as you write up tentative thesis statements and venture sentences that might become part of your essay, imagine a reader over your shoulder who not only eavesdrops but also interrupts: "But . . . but . . . how about . . . what about . . . what if . . . isn't it possible instead that. . . ." Let your essay become an answer to this critical reader.

87. In the tenth suggestion above, I said that sometimes turning an existing way of looking at something on its head can yield a new idea. Just for fun, see if you can do this with any issue or problem. Does adolescence cause acne, or does acne cause adolescence? Turn something else on its head. See what you can discover.

88. Reread the twelfth suggestion above. See if you can think of or uncover another historical instance in which this failure to take into account the one bit of evidence that disproved the accepted theory cost us lots of lost time, and caused us to lose sight of something we may have wanted or needed to know.

89. Below you will find a short paragraph from Jerome Bruner's *On Knowing*. Carry this paragraph around with you for a week and write a very short essay (two or three paragraphs) in response to this paragraph every day. That is, you will write *seven* short essays, each of which will take a different approach.

> The degree to which a society elaborates a technology determines the amount of division of labor in the society. The rationale of a technology is that its tools are not such that each individual can be equipped with a full set of them. With technological advance more things are possible, but social and technical organization is increasingly necessary to bring them off. In effect, then, the sense of potency—the idea of the possible—increases in scope, but the artificer of the possible is now society rather than the individual (p. 160).

90. Construct a list of approaches that you have discovered are possible for you to use when you are interested in forming a thesis statement. Did you summarize? Provide an example of the process? Talk about how it originated historically? Distinguish between things like necessary and possible adjustments to this state of affairs? Object to Bruner's assertion? Qualify his assertion? What else? What have you learned about the resources you have available to you when you want to write an essay?

Stage 8: Writing the First Draft

In one sense, of course, you have been writing drafts since the beginning: since you first decided you wanted to write an essay. You wrote notes to yourself; you wrote "relay reports" to yourself to see how much information you had and where the holes in your knowledge that might need to be filled were; you wrote questions to yourself; you wrote potential assertions and thesis statements to see how they sounded. If you have been doing all of these things, the pump is primed, and sitting down to do the "real" writing should not be nearly so fearsome as it can be if you are used to sitting down to face a blank piece of paper. As I have said, part of the "secret" to making writing easier is fooling yourself in one of several ways. "I'm not really writing the essay yet; I'm only taking notes," is a good way to *ease into* the first draft.

There is another way of fooling yourself that might work. As I have said, many writing books claim that when you reach the writing stage, you should find a quiet place in which to work. This is partially true, but what you want to do is be careful not to get yourself too comfortable. It is very easy to fool yourself into thinking you are "working" (because you are, after all, sitting at your desk), when your body and mind are just comfortably humming along, producing nothing. The trick then, might be to fool yourself into believing you are in an emergency situation in order to get the adrenalin flowing. Deadlines are great for this. It is amazing how hard you can work on a paper the night before it is due. And it is equally amazing that you cannot persuade yourself to work the night before that. So if you can fool yourself into thinking you are in an emergency situation, before you really are, you will have a much easier time beginning to write a first draft.

How do you know that it is time for the "real" writing? This time may come at a different phase for each writer, and it may be that the signals are different for each writer. I know it is time for me to start writing first drafts when I start sleeping restlessly and keep jumping out of bed to take more note slips, and when the rubber bands around them can no longer hold the stacks together, and when I am afraid that if I do not capture some of the ideas and sentences that are running through my head, I will lose them forever and be sorry to have lost them. But other writers have other ways of working. Here are two accounts from writers whose signals are very different and whose ways of writing are, apparently, very different too.

Paul Horgan. From *Approaches to Writing: Reflections and Notes on the Art of Writing from a Career of Half a Century*

My own habit brings me to my work table at about the same time every day—roughly at half-past nine. But actually, the working day starts earlier. It starts on awakening, with a sort of bated breath in the thought, if I may put it so. Preparation for the morning's task gets under way in an induced and protected absent-mindedness, as if to allow the work in progress to come clear gradually, so that its daily rebirth suffers no

> jarring collisions with immediate reality, but establishes its own inner reality from which it will draw conviction. Absurd as it may appear to those in other vocations, any contact with a serious distraction or obligation elsewhere may, at this daily moment, disturb a balance already delicate. A phone call is a minor catastrophe and a knock on the door a potential disaster. Until the day's work can actually begin, a frowning selfishness protects all the ingredients of plan, design, idea, and will; and when it begins, it flows forth, if the day is a good one, or it struggles forth, if it is a poor one; but strangely, later it is difficult to tell by the evidence which pages came from fluent work and which from halting. It is again a reflection of a discipline we have mentioned (p. 10).

Horgan talks a great deal in this book about what he calls the "discipline of work," in which the writer simply gets up in the morning and goes about writing, allowing nothing to interfere between him and his writing. Every day, for so many hours, he sits at his desk, no matter what. But in the following extract, another author describes his own habits quite differently.

Philip Lapote. "Helping Children Start to Write."
From *Research on Composing*

> With poetry . . . it doesn't hurt for me to feel a little rushed, upset, physically galvanized. I know something is up when I start hearing the echo, which makes even ordinary thoughts like 'I have to pick up the laundry' take on a melancholy bearing, a rhythmic certitude and significance that would be laughable at any other time when I am feeling more skeptical. This sudden conviction that I *know,* that I am walking in the fields of knowledge and everything is very simple, this impression of shadows and depth behind every thought and observation, is partly a function of the echo. . . . I can tell a poem is coming on from my stomach. A churning in the stomach is the infallible sign; it alone assures me that the emotion which precipitated the poem will last at least as long as it takes me to set down the first ten lines. I always worry that the feeling will desert me before I come to the end of the poem. . . . The crucial thing is that these physiological signals do exist, telling the writer when he or she is ready to get down to business. There may be long periods of waiting when nothing is happening: mental states filled with radio static or subvocal complaints whining and quarreling with each other. When I get like that, I don't see any point in writing. The work will only come out fractured and sour. I need to feel whole to write. Which means that I have to be patient with myself when I am feeling dispersed and wait for a better time. *Waiting is half the discipline of writing.*
>
> I am not saying that writers should sit on their hands and do nothing while waiting for those somewhat mystical signals. On the contrary, they can take notes, edit other material—or they can go ahead and fight the mood and hope to bully it around to their way. They can try to stumble on their wholeness in the act of writing; with a bit of luck, they will. . . . But even the stalwarts . . . have to take a day's vacation occasionally before approaching a difficult scene and dally over minor material until they feel their energies have been marshalled for the climax.
>
> I am convinced there is such a thing as *inner ripeness* in writing. One can ignore these signals or follow them, but the ripening process goes on nonetheless. . . . When you have picked the absolutely right moment to write, *then two-thirds of the technical problems which come up in composition are already solved* (pp. 143–44).

I have quoted several sentences of Lapote's, because they sound so right to me. You might consider whether they ring true to your own experience as well.

Once you have reached that stage—whether it comes with a galvanized jumping out of bed to write, a dogged, deliberate forcing of yourself to sit at a desk, a mystical echoic voice that tells you it is time to write, or a sense of simple eagerness and anticipation—there are some procedures you can follow that will make the writing of the first or rough draft much easier. A list of those procedures follows.

1. Never assume that you must—or even ought to—start by writing the first sentence of your essay. By definition, you do not and cannot know what the absolutely perfect open-

ing sentence will be until you have written the whole essay. More likely than not, your conclusion will split in two, and become both introduction and conclusion. *You cannot write an introduction to an essay that does not exist,* and it is a wonder the libraries are not full of the bodies of students who starved to death, sitting and waiting for that perfect introduction to come to them. It is far better simply to start writing a tentative introduction and assume that it will change at least once before the essay reaches its final form. If you read the introductions to essays, you will be able to tell that the confidence and control they exhibit are proof that they were not and could not have been written until the writer knew exactly where the essay was going.

2. Never sit down to write the draft, think of the major idea, and then reject it because you say to yourself, "I'll save that for later, for the grand finale." The natural tendency is to try to hold onto that big idea for last, but holding back is probably the second most common reason that people cannot get going on an essay. (The first reason is that they are waiting for the perfect opening sentence to come to them.)

3. Never try to polish and edit sentences in your draft, or find "just the right word." In the first place, you cannot tell what the perfect form of each sentence is until you see what the whole essay looks like. As I. A. Richards says in his *Philosophy of Rhetoric,* "A word is always a cooperative member of an organization, the utterance, and therefore cannot properly . . . be thought to have a meaning of its own, a fixed correct usage, or even a small limited number of correct usages unless by 'usage' we mean the whole *how* of its successful cooperations with other words" (p. 69). In the second place, as we have said, your mind simply cannot handle thinking, organizing, writing, polishing, and editing all at the same time. No one's can. In your draft, you should be concerned primarily with getting the ideas down in a logical sequence, and with paying attention to being as clear as you can be so that your reader can follow you from one point to the next. That is enough for anyone to concentrate on at one time. Keep your eye and

mind on your exposition and on the clarity of your essay. There is time enough to worry about polishing in later stages.

4. If you have taken notes as you should have and have grouped them, and then arranged the groups into larger groups, you already have a rough notion of what you will talk about first, second, and third. Follow that outline. In an ideal situation, writing the draft will simply be a matter of turning over note slips as you write, providing not much more than the "glue"—the transitions—that hold them together.

5. In a draft, you should not write all the way to the margins of your paper. We have watched how we write much slower than we think. While you are writing sentences down, no doubt other ideas will creep into your consciousness from that "ante-consciousness" or "fringe consciousness" we talked about earlier. Catch them as they fly by and jot them in the margins for development later. Do not go off the track, though. You can decide where these late thoughts fit in later, after you have finished the draft. Given what we have said about the essay, about how it is a way of thinking on paper, it is not surprising that new thoughts will intrude even as you write. If a new idea suddenly intrudes as you write, an idea that is so wonderful it transforms the shape of the entire essay, so much the better. Let it happen. Other ideas that come to you, however, should be "stored" in the margins, where you can pick them up later, consider if and how they might be related to your topic, and integrate them into a later draft if they fit.

6. As you continue through your note slips, shaping the essay as you go, keep one eye on your readers. Be sure you provide enough help so that they can follow your essay, but also be sure you anticipate your readers' objections and puzzlements: "Why?" "How did you get to this point from where you began?" "Haven't you forgotten about. . . ." Answer those curmudgeonly readers.

7. If you have to stop writing in the middle of the draft, try hard not to do so at a "dry spot," a place at which you do

not know what you want to say next. Doing that makes it much more difficult to come back to your desk, not only because you have to get your mind going again, but also because you will know that what confronts you is not just the finishing of a draft, but the struggling to think of what to say next. Ideally, when you leave off, you should jot down a word or two to help you remember exactly where your draft was going next.

8. Once you have written the draft, compare it against your note slips. See where some of those note slips you thought would not fit in might now fit quite well. See if the draft accurately represents what you intended to write.

Stage 9: Revising or Reformulating the First Draft

If *writing* the essay is never a one-stage process, *revising* it is probably never a one-step process either. It is a rare writer, I think, who can write a clear, concise, well-organized essay in a first attempt. It is an equally rare writer who can go from a first draft to a polished final draft with only a bit of tinkering intervening between one stage and the next. Thus several people, including Janet Emig, in *The Composing Processes of Twelfth Graders,* suggest that it may be best to use the word *reformulation* to describe what we do after the first draft, rather than the word *revision,* which has come to mean something more like minor tinkering or correcting of misspelled words. That kind of tinkering happens in the editing stage, which comes later. But in the reformulation phase, you will want to stand far back from your essay to see how the whole thing holds together, rather than standing up close, looking at details. In the reformulation phase, then, you might consider the following procedures:

1. Stand back from your whole essay. See if it all hangs together. Even if there are digressions, does the essay have a structure that you—and your readers—can follow?

2. As you stand back from the whole essay, check also to see if some separate paragraphs can be moved to make a point to better advantage. Are paragraphs five and eight, for instance, related in ways you had not noticed before? Might it be wise for you to move them closer together to highlight their relationship?

3. Check the proportions in your essay. Is the essay all introduction? If it is about the relationship of one thing to another, is it weighted too heavily toward one thing, and not enough toward the other? If it is a compare and contrast essay, does it only discuss similarities, not dissimilarities? Is it in every possible way balanced? Does it have enough introduction, enough body, enough conclusion? (Keep in mind that very powerful essays often do not need a formal conclusion.)

4. Stand back from the whole essay and ask yourself: Could any sentences be shuffled about with no apparent damage to the essay's meaning? That is, is this essay composed of free-standing sentences, or is it really an essay in which the parts all add up to something in a *cumulative* way? Remember the "essay" about computers taking over the world in Chapter 2, and remember the way we said that it was not an essay, but a collection of miscellaneous observations. Make sure that is not true of your essay.

5. Stand back from your essay and ask yourself if you see any sentences that would be vague to a reader, but that are highly charged for you. If so, circle the phrase that makes the sentence vague and, in a subsequent draft, make sure you specify what you were thinking of when you composed that sentence. For example, the sentence "By having these two jobs, I was able to see the business in an entirely different perspective," may mean a great deal to you, but unless you specify what you mean by "different perspective," it means very little to your readers. After you circle such phrases, *push* on them; push on your own words to make them give up their secrets to you. By now, you should surely know that words not only express what we mean to other people but also teach us what we might be thinking and feeling—without knowing it. Because this is so, you can use the words you have written as a means of pushing you on to ideas beyond those you think you have.

6. Stand back from the draft. Judge what you now take it to be: Is it a reflection of your current place in the composing process? That is, is it full of ideas that are only half-formed? Is it a record of your own confusion or uncertainty about your material? Is it only a recording of the raw material you had on hand, rather than an organized essay? Is it a narrative ("and then, and then, and then"), or an analysis? Are two theses working against one another? Are there two different but possibly compatible theses in it?

7. Standing back from the draft, check to see if you have made an accurate assessment of what your reader can be expected to know and have made sure your reader will be able to follow you. "A shrewd decision about the knowledge that the writer can tacitly assume in his audience may be the most important decision the writer makes," says E. D. Hirsch in his *Philosophy of Composition* (p. 105).

8. As you stand back from the draft, ask yourself: "Do I like the sound and the tone of the voice in this essay? *Am* I that person, or do I want to be known as that person?"

9. With your draft beside you, follow it closely and *write a paraphrase of it,* just as you wrote paraphrases of writing excerpts from other people's essays throughout this book. Compare your paraphrase with your draft. Decide if you meant to say what you have said. Decide whether you might like the paraphrase better than the draft. Is it more clear, more simple, more graceful? If so, you have now finished your revision.

10. Have a friend paraphrase your draft if possible. Compare that paraphrase against your draft. Refine the draft everywhere you feel you were misunderstood.

11. If your tendency is always to say too little, if you fail to explain yourself or defend your assertions, or if you often are told that you make a point and then run from it and do not explain or defend it, try this tactic during the reformulation phase: take your draft and *add two sentences* in between every two in the draft. You may be surprised at the added clarity and specificity you will find in the expanded version.

12. If your tendency is to repeat yourself, try deleting or combining sentences. See if your condensation makes your draft more powerful. You should be careful, of course, not to take out anything that is necessary to your essay.

13. Standing back from the draft, check to see if you might not be fighting a pull from the essay. Does it really want to take you somewhere other than where you have taken it? Consider whether you might not want to follow that other impulse, and then write the essay that leads you where it wants to go. See if you like that reformulation better than the draft.

Stage 10: Editing the Final Draft

After you have finished your major reformulation, you should have something that is very near a finished essay. At this point, there are several questions you can ask yourself and procedures you can follow to become, in effect, your own editor. This is true even though editing is probably not a skill that can be easily learned. Editing requires that you be able to see your own writing as if it were someone else's: to see it with a cold eye, making sure not only that there are no mistakes—misspellings and awkwardnesses—but that the rhythms of the prose are good; making sure it just, well, sounds "right." To do all this, there are several procedures you can go through:

1. Test *each* of your sentences *in its context*: Is your opening sentence (or your second sentence, perhaps) an announcement of your major premise? If not, is your opening paragraph, at the very least, an introduction to your thesis; does it direct your reader to the subject?

2. Can you judge the role each of your subsequent sentences plays? Can you say to yourself, with confidence: "*This* sentence is a piece of evidence to support that assertion"? "*This* sentence is an exception to the generalization I just made"? "*This* sentence explores the implications of what

I just said"? "*This* sentence contains my hypothesis"? "*This* sentence is a reiteration of my earlier point"?

3. We said earlier that you should not polish your sentences in the draft, because you cannot know what the best form of those sentences will be until the end of the essay. Now is the time to decide what the best form of each of your sentences is, and you should decide on the basis of the *position* of that sentence in your argument and on the basis of its *function* within a paragraph. Do whatever is necessary to lead your reader from one sentence to the next. Provide the transitions, the *since*'s, *because*'s, *therefore*'s, and *however*'s that your essay requires if those are not already in place in the sentences.

4. You should be able to answer the following questions about each sentence: How is this sentence functioning in my essay? What is it doing there, and what is it doing *at this point* in my essay? Does it belong there? Does this particular sentence need a couple of other sentences to support it? Is its relation to the previous sentence unclear? Think about the kinds of relationship between sentences you found in the excerpts we have read throughout this book. Those relationships need not be remorselessly "logical." Remember we said the essay is a place in which you can think on paper: you can muse, examine cases, explore alternatives, provide analogies. But there must be some order to what you write, and sentence must follow sentence by some logic.

5. If you are in doubt about whether your essay holds together and provides its readers with all the help they need to follow it, test it in this way. Read the first sentence, put your hand over the following sentence, and ask yourself, *What kind of sentence must necessarily follow after this one?* Then answer that question honestly. Anything resembling a mysterious, unexpected sentence will *require* subsequent exemplification and explanation. Any apparent jump to a new subject will *require* an explanation of why and how it is not really a jump—or at the very least, a justificaiton for the jump. Any new term introduced will *require* a definition, or at least an explanation of its relationship to other terms in your essay.

6. X-ray each of your sentences; that is, identify the grammatical "bones" of each sentence, especially those that just do not sound quite "right." Identify the principal subject and verb. Then check all the other elements—subordinate clauses, phrases in apposition, modifiers, pronouns. See if your subject and verb are in agreement. See if each pronoun (*it, they, he*) has an easily identifiable noun to modify in the preceding sentence. Grammatical fuzziness is nearly always a symptom of fuzziness in thinking. If you say "It is a matter of . . .," be sure you can identify that *it*.

7. After you have arrived at what you think is the final version of your essay, test it again against your original scribblings and notes. How much of your scribbling has been polished out of your final draft? How much of it do you want to put back in? For years I have read students' roughest rough drafts as well as their finished essays, and I am often astonished at how much exciting material gets left behind on the coffee-stained napkin on which they first got the brainstorm for their essay. Especially things like examples and model cases get left behind. And explanations of why the topic interested them in the first place, and what their personal relationship to the ideas and material is. In this late stage, if this has happened to your essay, consider bringing that necessary material back into the essay. Otherwise, as you revise, the danger is that each of your succeeding drafts tends to get more and more abstract; more and more cut off from both the real material you began with, and from the excitement that prompted you to write about that material in the first place.

8. Once you have your "final" final draft, give it to someone you trust to read. Even the experts—or maybe especially the experts—need someone else to read their writing to see if it is good and makes sense. Look at the acknowledgment pages of books sometime. You will find writer after writer thanking the people who took the time to read and comment on his or her rough drafts. Once we get very

close to our own words, we lose some of our capacity to see them objectively, and when that happens, it helps to have someone else read what we have written. This need not be threatening, and ought to be a chance for you to share, to teach someone else what you have learned. And that, of course, is why we write.

Bibliography

In this kind of book, in which names and theories have been rather cavalierly scattered here and there, one wants to offer a proper bibliography so that the reader may find what those theories look like in the original, in their context, argued and defended by their creators and proponents. But a proper bibliography for such a book as this is impossible to provide, for several reasons.

First, partly what makes the subject of composition so exciting is also what makes putting together a proper bibliography impossible. The field is a lively and fluid one: there is new theory every day, and theories are so widely debated among so many people in so many places that it is sometimes impossible to know where an idea originated any more. The worn-out ballpoint exercise I propose in an early chapter of this book, for instance, was inspired by the research of James Britton. I did not read the account of that research in Britton's own work; instead, I heard reports of it in San Francisco at the 1979 Modern Language Association Convention, in a session on research in composing led by Janet Emig. There it was Walter Ong, I think, who recounted the experiment. But it might only have been that Fr. Ong was standing and responding to a point, and that it was, as I dimly suspect, someone on the other side of the room who made reference to Britton's experiment. However unsure I am of that reference, I am quite certain that it was E. D. Hirsch who commented offhandedly at that same session that "it might be that the process of composing may be inaccessible to teachers at the level at which they would like to know about it." I am also quite certain that it was this comment that set me to the work of creating a composition book that would not try to tell students how the