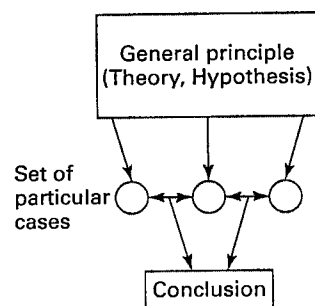
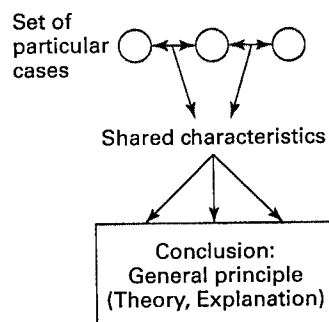


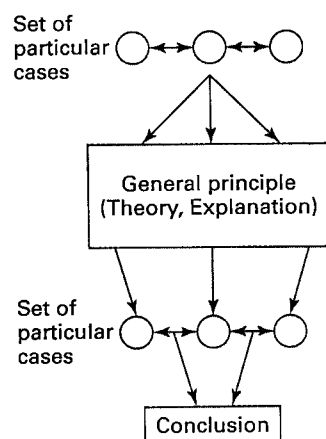
(A) Deduction



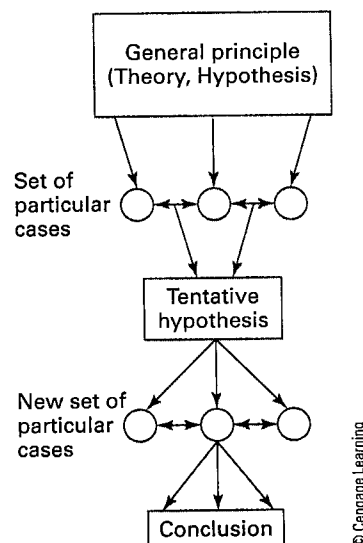
(B) Induction



(C) Blend: Induction to Deduction



(D) Blend: Deduction to Induction



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FIGURE 4.3

Deduction and Induction. Deduction (A) uses particular cases to exemplify general principles and analyze their implications. Induction (B) constructs general principles from the analysis of particular cases. In practice, analytical thinking and writing blend deduction and induction and start either with particular cases (C) or a general principle (D)

Nevertheless, the primary claim of an inductive paper is generally deemed credible if a writer can demonstrate that the theory is based on a reasonably sized sampling of representative instances. Obviously, a child who arrives at the claim that all orange food tastes bad on the basis of squash and carrots has not based that theory on an adequate sampling of available evidence.

Induction is a process aimed at forming theories about the meaning of things. The scientific method, for example, uses induction to evolve explanations for observed phenomenon such as the higher incidence of heart attacks among men than women. The proposed explanation (general principle) is then tested deductively according to the pattern: if theory X is true, then such-and-such should follow. If the particular results predicted by the theory do not occur when the theory is put to the test, the scientist knows that something is wrong with his or her induction. A deductive premise is only as good as the inductive reasoning that produced it in the first place. (See, in Chapter 6, our discussion of a student essay on the meaning of Velázquez's painting, *Las Meninas*, for an example of how inductive reasoning works in the writing process.)

As these examples show, in most cases induction and deduction operate in tandem (see Figure 4.3, C and D). The aim of analysis is usually to test (deductively) the validity of a hypothetical conclusion or to generate (inductively) a theory that might plausibly explain a given set of data. Analysis moves between the particular and the general, regardless of which comes first.

"1 on 10" and "10 on 1"

We use the terms 1 on 10 and 10 on 1 for deduction and induction, because these terms make it easy to visualize what in practice writers actually do when they use these thought processes. In 1 on 10, our term for deduction, a writer attaches the same claim (1) to a number of pieces of evidence. (The "10" stands for a series of examples, as shown in Figure 4.4). In 10 on 1, our term for induction, the writer makes a series of observations (arbitrarily, "10") about a single example (the "1"; see Figure 4.5). We now will talk about each of these in turn.

DOING 1 ON 10

To get started on 1 on 10, you need, of course, a 1—a claim that you think usefully illuminates the pieces of evidence you are looking at. You can arrive at this claim by searching for patterns of repetition in the evidence (see THE

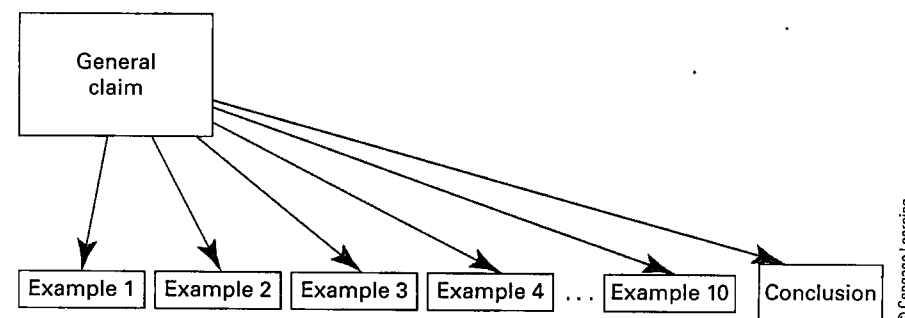


FIGURE 4.4

DOING 1 ON 10: 1 Claim, 10 Pieces of Evidence (in which 10 stands arbitrarily for any number of examples)

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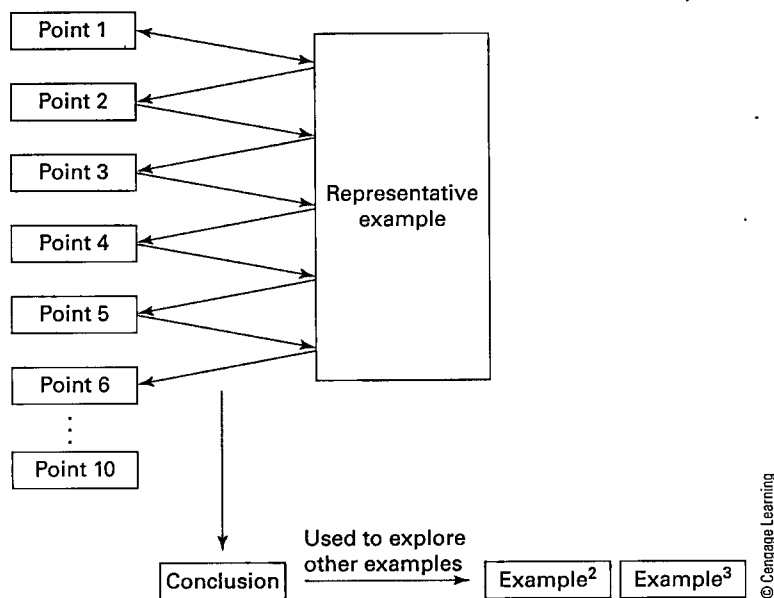


FIGURE 4.5

DOING 10 ON 1. The pattern of 10 on 1 (in which “10” stands arbitrarily for any number of points) successively develops a series of points about a single representative example. Its analysis of evidence is in depth

METHOD in Chapter 1). The primary reason you are looking at a number of examples is to determine if there is sufficient evidence to make the claim. The pieces of evidence will in effect be united by the claim. If, for example, you discover that revolutionary movements at different historical moments and geographical locales produce similar kinds of violence, you would be able to demonstrate that there is a generalizable model for organizing and understanding the evidence—a model that provides a way of seeing a vast amount of information.

The search for a claim that enables the deductive way of seeing necessarily involves focusing on similarity rather than difference. If a writer in reading the biblical book of Exodus focuses broadly on the difficulties of faith, she could formulate a principle that might be used deductively to reveal the unity in the book: that again and again the Israelites get into trouble whenever their faith in God falters.

Similarly, when scientists test a theory by seeing how well it explains certain phenomena, they are operating deductively. They use the theory—the “1”—to call attention to and explain what otherwise might have seemed entirely disconnected pieces of evidence. This is what is exciting about deduction at its best—it’s revealing. It highlights a pattern in a body of evidence that, before the revelation of pattern, just seemed a collection of data.

Organizing Papers Using 1 on 10

1. Either start with a preexisting claim or generate a claim by using THE METHOD OF NOTICE & FOCUS to find a revealing pattern or tendency in your evidence. (See Chapter 1.)
2. As you move through the evidence, look for data that corroborate your claim.
3. Formulate your reasons for saying that each piece of evidence supports the overarching claim.
4. Work out how the separate parts of your data connect.
5. Revise and enrich the implications of your claim (the 1) on the basis of the series of examples (the 10) you’ve presented.

A Potential Problem with 1 on 10: Mere Demonstration

The single biggest potential problem in 1 on 10 papers is that the form lends itself so easily to superficial thinking. This is true in part because when the time comes to compose a formal paper, it is very common for writers to panic, and abandon the wealth of data and ideas they have accumulated in the exploratory writing stage, telling themselves, “Now I better have my one idea and be able to prove to everybody that I’m right.” Out goes careful attention to detail. Out goes any evidence that doesn’t fit. Instead of analysis, they substitute the kind of paper we call a *demonstration*. That is, they cite evidence to prove that a generalization is generally true. The problem with the demonstration lies with its too limited notions of what a thesis and evidence can do in a piece of analytical thinking.

The 1 on 10 demonstration, as opposed to a more productive deductive analysis, results from a mistaken assumption about the function of evidence: that it exists only to demonstrate the validity of (corroborate) a claim. Beyond corroborating claims, evidence should serve to test and develop them. A writer who makes a single and usually very general claim (“History repeats itself,” “Exercise is good for you,” and so forth) and then proceeds to affix it to ten examples is likely to produce a list, not a piece of developed thinking.

DOING 10 ON 1: Saying More About Less

The phrase “10 on 1” is the term the book uses to describe inductive ways of proceeding in a piece of writing. Rather than looking at the whole, you are looking in depth at a part that you think is representative of the whole. Note that 10 on 1 is a deliberate inversion of 1 on 10, so that the “1” now stands for a single, rich, and representative example, and the “10” stands for the various observations that you are able to make about it. To return to the Exodus example, a writer who wished to explore the dynamics of failed faith might make his “1” the episode of the golden calf in chapter 32: 1–35. He might isolate key repetitions and strands, and actively raise questions. Why, for example, does Moses burn the idol, grind it to powder, scatter it on water, and make the Israelites drink it?

DOING 10 ON 1 will lead you to draw out as much meaning as possible from your best example—a case of narrowing the focus and then analyzing in depth. Eventually you will move from this key example to others that usefully extend and qualify your point, but first you need to let analysis of your representative example produce more thinking. In Exodus 35, for example, failed faith provokes anger (arguably, the key repetition in the chapter) and eventual bloodshed. Before a writer could see these three terms as a pattern in the text, he'd need to study other instances of failed faith in this book of the Bible.

The practice of DOING 10 ON 1 remedies the major problem writers have when they do 1 on 10: simply attaching a host of examples to an obvious and overly general claim, with little or no analysis. DOING 10 ON 1 requires writers to explore the evidence, not just generalize about it.

You can use 10 on 1 to accomplish various ends: (1) to locate the range of possible meanings your evidence suggests, (2) to make you less inclined to cling to your first claim, (3) to open the way for you to discover the complexity of your subject, and (4) to slow down the rush to generalization and thus help to ensure that when you arrive at a working thesis, it will be more specific and better able to account for your evidence.

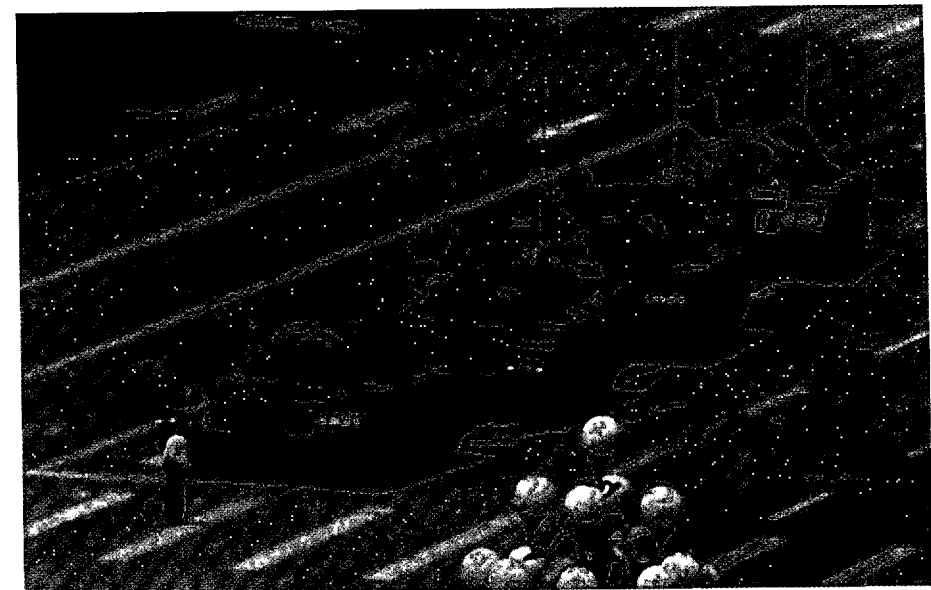
Organizing Papers Using 10 on 1

1. Use THE METHOD OF NOTICE & FOCUS to find a revealing pattern or tendency in your evidence. (See Chapter 1.)
2. Select a representative example.
3. Do 10 on 1 to produce an in-depth analysis of your example.
4. Test your results in similar cases.

A Potential Problem with 10 on 1: Not Demonstrating the Representativeness of Your Example

Focusing on your single best example has the advantage of economy, cutting to the heart of the subject, but it runs the risk that the example you select might not in fact be representative. You need to demonstrate its representativeness overtly. This means showing that your example is part of a larger pattern of similar evidence and not just an isolated instance. To establish that pattern it is useful to do 1 on 10—locating ten examples that share a trait—as a preliminary step and then select one of these for in-depth analysis.

In terms of logic, the problem of generalizing from too little and unrepresentative evidence is known as an unwarranted inductive leap. The writer leaps from one or two instances to a broad claim about an entire class or category. Just because you see an economics professor and a biology professor wearing corduroy jackets, for example, you would not want to leap to the conclusion that all professors wear corduroy jackets. Most of the time, unwarranted leaps result from making too large a claim and avoiding examples that might contradict it.



AP Images/Jeff Widener

FIGURE 4.6
Tiananmen Square, Beijing, 1989

DOING 10 ON 1: A Brief Example (Tiananmen Square) Note how the writer of the following discussion of the people's revolt in China in 1989 sets up his analysis. He first explains how his chosen example—a classic photograph (shown in Figure 4.6) from the media coverage of the event—illuminates his larger subject. The image is of a Chinese man in a white shirt who temporarily halted a line of tanks on their way to quell a demonstration in Tiananmen Square in Beijing.

The tank image provided a miniature, simplified version of a larger, more complex revolution. The conflict between man and tank embodied the same tension found in the conflict between student demonstrators and the Peoples' Army. The man in the white shirt, like the students, displayed courage, defiance, and rebellious individuality in the face of power. Initially, the peaceful revolution succeeded: the state allowed the students to protest; likewise, the tank spared the man's life. Empowered, the students' demands for democracy grew louder. Likewise, the man boldly jumped onto the tank and addressed the soldiers. The state's formerly unshakable dominance appeared weak next to the strength of the individual. However, the state asserted its power: the Peoples' Army marched into the square, and the tanks roared past the man into Beijing.

The image appeals to American ideology. The man in the white shirt personifies the strength of the American individual. His rugged courage draws on contemporary heroes such as Rambo. His defiant gestures resemble the demonstrations of Martin Luther King Jr. and his followers. American history predisposes us to identify strongly