

Chapter 5

ARCS OF COHERENCE

HOW TO ENSURE THAT READERS WILL GRASP THE TOPIC, GET THE POINT, KEEP TRACK OF THE PLAYERS, AND SEE HOW ONE IDEA FOLLOWS FROM ANOTHER

So many things can go wrong in a passage of prose. The writing can be bloated, self-conscious, academic; these are habits that classic style, which treats prose as a window onto the world, is designed to break. The passage can be cryptic, abstruse, arcane; these are symptoms of the curse of knowledge. The syntax can be defective, convoluted, ambiguous; these are flaws that can be prevented by an awareness of the tree-like nature of a sentence.

This chapter is about yet another thing that can go wrong in writing. Even if every sentence in a text is crisp, lucid, and well formed, a *succession* of them can feel choppy, disjointed, unfocused—in a word, incoherent. Consider this passage:

The northern United States and Canada are places where herons live and breed. Spending the winter here has its advantages. Great Blue Herons live and breed in most of the northern United States. It's an advantage for herons to avoid the dangers of migration. Herons head south when the cold weather arrives. The earliest herons to arrive on the breeding grounds have an advantage. The winters are relatively mild in Cape Cod.

The individual sentences are clear enough, and they obviously pertain to a single topic. But the passage is incomprehensible. By the second sentence we're wondering about where *here* is. The third has us puzzling over whether great blue herons differ from herons in general, and if they do, whether these herons live only in the northern United States, unlike the other herons, who live in Canada as well. The fourth sentence seems to come out of the blue, and the fifth seems to contradict the fourth. The paragraph is then rounded out with two non sequiturs.

Now, I doctored this passage to make it bewilderingly incoherent, just to dramatize the topic of this chapter. But lesser failures of coherence are among the commonest flaws in writing. Consider some of the clumsy sentences I fixed in earlier chapters, repeated here in their improved versions:

The researchers found that in groups with little alcoholism, such as Jews, people actually drink moderate amounts of alcohol, but few of them drink too much and become alcoholics.

For the third time in a decade, a third-rate Serbian military is brutally targeting civilians, but beating it is hardly worth the effort; this view is not based on a lack of understanding of what is occurring on the ground.

Even with the syntax repaired, the sentences are difficult to understand, and the original contexts don't make them any clearer. The problem is coherence: we don't know why one clause follows another. No further tinkering with the syntax will help. We need a context that leads the reader to understand why the writer felt the need to assert what she is now asserting:

One might think that the reason some ethnic groups have high rates of alcoholism is that drinking is common in the group. According to this hypothesis, drinking even moderate amounts of alcohol puts people at risk of drinking too much and becoming alcoholics. If so, we should find that the groups with the lowest rates of alcoholism are those in which drinking of any kind is forbidden, such as Mormons or Muslims. But that's not what the researchers discovered. . . .

Many policy analysts write as if the obvious way to deal with armies that commit human rights violations is to invade them with our vastly superior military forces. Anyone who opposes a military invasion, they argue, must be ignorant of the atrocities taking place. But that's not why I and other statesmen favor a different strategy for ending this crisis. Make no mistake. . . .

Whenever one sentence comes after another, readers need to see a connection between them. So eager are readers to seek coherence that they will often supply it when none exists. One category of frequently emailed bloopers consists of sequences which are amusing not because of problems in syntax but because of problems in coherence:¹

Miss Charlene Mason sang, "I WILL Not Pass This Way Again," giving obvious pleasure to the congregation.

The sermon this morning: "Jesus Walks on the Water." The sermon tonight will be "Searching for Jesus."

Dog for sale: Eats anything and is fond of children.

We do not tear your clothing with machinery. We do it carefully by hand.

The patient has been depressed ever since she began seeing me in 2008.

In fact, it's the hunger for coherence that drives the entire process of understanding language. Suppose a reader has successfully parsed a sentence and now has an understanding of who did what to whom or

what is true of what. Now he must integrate it with the rest of his knowledge, because a factoid floating around in the brain unlinked to anything else is as useless as a book filed on a random shelf in a library or a Web site with no links to it. This linking must be repeated with each sentence in the text. That is how the content of a passage of text becomes integrated into the reader's web of knowledge.

This chapter is about the sense of style in passages longer than a sentence—a paragraph, a blog post, a review, an article, an essay, or a book. Some of the principles of style that apply within a sentence, such as building an orderly tree and placing given before new information, apply to extended passages as well. But as we shall see, coherent discourse also uses devices that differ from the branching of a tree, and our metaphors must expand accordingly.

At first glance, the organization of a text really does seem like a tree, with passages of language embedded in still larger passages of language. Several clauses are joined or embedded in a sentence; several sentences make up a paragraph; several paragraphs make up a section, several sections a chapter, several chapters a book. A text with this hierarchical structure is easy for a reader to assimilate because at any level of granularity, from clauses to chapters, the passage can be represented in the reader's mind as a single chunk, and the reader never has to juggle more than a few chunks at a time as he figures out how they are related.

To compose a passage with this orderly structure, a writer must organize the content she hopes to convey into a neat hierarchy. Sometimes she may be lucky enough to begin with a firm grasp of the hierarchical organization of her material, but more often she will have an unruly swarm of ideas buzzing in her head and must get them to settle down into an orderly configuration. The time-honored solution is to create an outline, which is just a tree lying on its side, its branches marked by indentations, dashes, bullets, or Roman and Arabic numerals, rather than by forking line segments. One way to fashion an outline is to jot your ideas on a page or on index cards more or less at random and then

look for ones that seem to belong together. If you reorder the items with the clusters of related ideas placed near one another, then arrange the clusters that seem to belong together in larger clusters, group those into still larger clusters, and so on, you'll end up with a tree-like outline.

But now you face a major difference between the syntactic tree of a sentence and the outline tree of a text. When it comes to putting the units into a left-to-right order, the rules of English syntax leave writers with only a few possibilities. The object, for example, pretty much has to come after the verb. But if you're writing an essay on mammals, it's up to you whether to write first about the rodents, then the primates, then the bats, and so on, or first the primates, then the felines, then the whales and dolphins, or any of the other 403,291,461,126,605,635,584, 000,000 logically possible orderings of the twenty-six subgroups. The writer's challenge is to come up with a scheme to order these units of text—to turn a dangly mobile into a rigid tree.

Often an author will pick an order more or less arbitrarily and use verbal signposts or numbered headings to guide the reader on his journey through the text (*Part II Section C Subsection 4 Paragraph b*, or *Section 2.3.4.2*). But in many genres, numbered headings are not an option, and as we saw in chapter 2, excessive signposting can bore and confuse a reader. And regardless of how many headings or signposts you use, it's always best to lay an intuitive trail through the territory: a scheme for stringing the units into a natural order that allows readers to anticipate what they will encounter next. There is no algorithm for doing this, but let me give you a couple of examples.

I once had the challenge of explaining an unruly literature on the neurobiology and genetics of language, which embraces a vast range of topics, including case studies of neurological patients, computer simulations of neural networks, and neuroimaging of the brain areas that are active during language processing. The first temptation was to order the studies historically, which is how textbooks do it, but this would have been an indulgence in professional narcissism: my readers were interested in the brain, not in the history of the doctors and professors who study the brain. It dawned on me that a clearer trajectory

through this morass would consist of zooming in from a bird's-eye view to increasingly microscopic components. From the highest vantage point you can make out only the brain's two big hemispheres, so I began with studies of split-brain patients and other discoveries that locate language in the left hemisphere. Zooming in on that hemisphere, one can see a big cleft dividing the temporal lobe from the rest of the brain, and the territory on the banks of that cleft repeatedly turns up as crucial for language in clinical studies of stroke patients and brain scans of intact subjects. Moving in closer, one can distinguish various regions—Broca's area, Wernicke's area, and so on—and the discussion can turn to the more specific language skills, such as recognizing words and parsing them into a tree, that have been tied to each area. Now we can switch from the naked eye to a microscope and peer into models of neural networks. From there we can crank the microscope one more turn to the level of genes, which is an opportunity to review studies of dyslexia and other inherited language disorders. All the research fell into place along a single global-to-local continuum. I had my ordering.

The ways to order material are as plentiful as the ways to tell a story. On another occasion I had to review research on English, French, Hebrew, German, Chinese, Dutch, Hungarian, and Arapesh, a language spoken in New Guinea. English was the natural starting point, but in what order should I bring up the others? I suppose I could have reviewed them in terms of how familiar they are to me or to American readers, or the order in which the studies were done, or even alphabetically. But instead I marched backwards in time to older and older (and more and more inclusive) language families: first the languages begotten by Germanic tribes who lived about 2,000 years ago, including Dutch and German; then to other Indo-European tribes, such as the Italic people who split from their Germanic brethren about 3,500 years ago, which brings in French; then to the Uralic tribes, which probably coexisted with the Indo-Europeans about 7,000 years ago and left us with Hungarian; and so on, back through history and outward in language families.

There are many other ordering schemes: leading the reader on a trek across a geographical territory; narrating the travails of a hero who must overcome obstacles on his way to achieving a goal; mimicking a debate in which the two sides present their positions, rebut each other, sum up their cases, and await a verdict; and, sometimes, recounting the history of discovery that culminated in our current understanding.

Appreciating the treelike nature of a text can also help you understand one of the few devices available in nontechnical prose to visually mark the structure of discourse: the paragraph break. Many writing guides provide detailed instructions on how to build a paragraph. But the instructions are misguided, because there is no such thing as a paragraph. That is, there is no item in an outline, no branch of a tree, no unit of discourse that consistently corresponds to a block of text delimited by a blank line or an indentation. What does exist is the paragraph *break*: a visual bookmark that allows the reader to pause, take a breather, assimilate what he has read, and then find his place again on the page.

Paragraph breaks generally coincide with the divisions between branches in the discourse tree, that is, cohesive chunks of text. But the same little notch must be used for divisions between branches of every size, whether it's the end of a minor digression, the end of a major summation, or anything in between. Sometimes a writer should cleave an intimidating block of print with a paragraph break just to give the reader's eyes a place to alight and rest. Academic writers often neglect to do this and trowel out massive slabs of visually monotonous text. Newspaper journalists, mindful of their readers' attention spans, sometimes go to the other extreme and dice their text into nanoparagraphs consisting of a sentence or two apiece. Inexperienced writers tend to be closer to academics than to journalists and use too few paragraph breaks rather than too many. It's always good to show mercy to your readers and periodically let them rest their weary eyes. Just be sure not to derail them in the middle of a train of thought. Carve the notch above a sentence that does not elaborate or follow from the one that came before.

For all the cognitive benefits of hierarchical organization, not all texts have to be organized into a tree. A skilled writer can interleave

multiple story lines, or deliberately manipulate suspense and surprise, or engage the reader with a chain of associations, each topic shunting the reader to the next. But no writer can leave the macroscopic organization of a text to chance.

Whether or not a text is organized to fit into a hierarchical outline, the tree metaphor goes only so far. No sentence is an island; nor is a paragraph, a section, or a chapter. All of them contain links to other chunks of text. A sentence may elaborate, qualify, or generalize the one that came before. A theme or topic may run through a long stretch of writing. People, places, and ideas may make repeat appearances, and the reader must keep track of them as they come and go. These connections, which drape themselves from the limbs of one tree to the limbs of another, violate the neatly nested, branch-within-branch geometry of a tree.² I'll call them arcs of coherence.

Like the mass of cables drooping behind a desk, the conceptual connections from one sentence to another have a tendency to get gnarled up in a big, snaggy tangle. That's because the links connected to any idea in our web of knowledge run upwards, downwards, and sideways to other ideas, often spanning long distances. Inside the writer's brain, the links between ideas are kept straight by the neural code that makes memory and reasoning possible. But out there on the page, the connections have to be signaled by the lexical and syntactic resources of the English language. The challenge to the writer is to use those resources so that the reader can graft the information in a series of sentences into his web of knowledge without getting tangled up in either.

Coherence begins with the writer and reader being clear about the topic. The topic corresponds to the small territory within the vast web of knowledge into which the incoming sentences should be merged. It may seem obvious that a writer should begin by laying her topic on the table for the reader to see, but not all writers do. A writer might think that it's subtle to announce the topic in so many words, as in "This paper is about hamsters." Or she herself may discover her topic only

after she has finished laying her ideas on paper, and forget to go back and revise the opening to let the reader in on her discovery.

A classic experiment by the psychologists John Bransford and Marcia Johnson shows why it's essential to let the reader in on the topic early.³ They asked participants to read and remember the following passage:

The procedure is actually quite simple. First you arrange things into different groups depending on their makeup. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo any particular endeavor. That is, it is better to do too few things at once than too many. In the short run this may not seem important, but complications from doing too many can easily arise. A mistake can be expensive as well. The manipulation of the appropriate mechanisms should be self-explanatory, and we need not dwell on it here. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It is difficult to foresee any end to the necessity for this task in the immediate future, but then one never can tell.

Needless to say, the passage made little sense to them, as I expect it made little sense to you, and they could remember few of the sentences. Another group of people got the same passage but with a new tidbit slipped into the instructions: "The paragraph you will hear will be about washing clothes." The level of recall doubled. A third group was given the topic *after* reading the story; it didn't help them at all. The moral for a writer is obvious: a reader must know the topic of a text in order to understand it. As newspaper editors say: Don't bury the lede (*lede* being journalist jargon for "lead," which might otherwise be misread as the heavy metal).

Now, you might object that the experimenters stacked the deck by

writing a passage about a concrete physical activity in vague and abstract language. But they also ran a study in which almost every sentence referred to a concrete object or action:

A newspaper is better than a magazine.

A seashore is a better place than the street.

At first it is better to run than to walk.

You may have to try several times.

It takes some skill but it's easy to learn.

Even young children can enjoy it.

Once successful, complications are minimal.

Birds seldom get too close.

Rain, however, soaks in very fast.

Too many people doing the same thing can also cause problems.

One needs lots of room.

If there are no complications, it can be very peaceful.

A rock will serve as an anchor.

If things break loose from it, however, you will not get a second chance.

Make sense? How about with this clue: "The sentences are about making and flying a kite." Stating the topic is necessary because even the most explicit language can touch on only a few high points of a story. The reader has to fill in the background—to read between the lines, to connect the dots—and if he doesn't know which background is applicable, he will be mystified.

Together with the topic of a text, the reader usually needs to know its *point*. He needs to know what the author is trying to accomplish as she explores the topic. Human behavior in general is understandable only once you know the actor's goals. When you see someone waving her arms, the first thing you want to know is whether she is trying to attract attention, shoo away flies, or exercise her deltoids. That is also true of writing. The reader needs to know whether a writer is

rabbiting on about a topic in order to explain it, convey interesting new facts about it, advance an argument about it, or use it as an example of an important generalization. In other words, a writer has to have both something to talk about (the topic) and something to say (the point).

Writers often resist telegraphing their point at the outset. Sometimes they feel it would spoil the suspense. Sometimes they are victims of professional narcissism and write as if the reader were interested in every blind alley, fool's errand, and wild-goose chase they engaged in while exploring the topic. Most often, they themselves don't know the point of their essay until they have written a first draft, and never go back to reshape the essay so that the point is clear at the beginning. An old cartoon captioned "The PhD thesis" shows a little boy firing an arrow into the air, seeing where it lands, walking over to it, and painting a target around that spot. It's not how science should work, but it's sometimes how writing must work.

Some genres, such as the scholarly journal article, force an author to lay out her point in a summary, an abstract, or a synopsis. Others, such as magazines and newspapers, help the reader with a tag line (an explanation beneath the cutesy title) or a pull quote (an illustrative sentence displayed in a box). Some style guides, such as Joseph Williams's excellent *Style: Toward Clarity and Grace*, provide a formula. Williams advises writers to structure every section as an "issue" (the topic) followed by a "discussion," and to state the point of the text at the end of the issue.

The exact place in which the point of a text is displayed is less important than the imperative to divulge it somewhere not too far from the beginning. There are, to be sure, stand-up comedians, shaggy-dog raconteurs, consummate essayists, and authors of mystery novels who can build up curiosity and suspense and then resolve it all with a sudden revelation. But everyone else should strive to inform, not dumbfound, and that means that writers should make it clear to their readers what they are trying to accomplish.

As a reader works his way through a text, the next challenge is to keep track of the ideas that run through it and to discern the logical relationship between one idea and the next. Let's work through a simple text in which the author makes it easy.

My model of coherent discourse is the original version of the text that I doctored for the opening of the chapter. It comes from a weekly feature in a local tabloid, *The Cape Codder*, called "Ask the Bird Folks." The Bird Folks actually consist of one bird folk, Mike O'Connor, who owns the Bird Watcher's General Store in Orleans, Massachusetts. Soon after opening the store O'Connor found himself fielding so many questions from curious customers that he tried his hand at writing a column. In this one, he responded to a reader worried about a heron which showed up at a bog near her house and was unable to feed because the bog had frozen over.⁴ After reassuring her that herons can survive a few days without eating, he provides the backstory to this pathetic scene:

Great Blue Herons live and breed just about anywhere in the northern United States and most of Canada. When the cold weather arrives, the herons head south. A few come to Cape Cod where the winters usually aren't too bad. Most of these herons are either inexperienced young birds or lost adult males too stubborn to ask for directions south. Spending the winter here has its advantages, and I'm not talking about the free off-season parking in Provincetown. Herons are able to avoid the dangers of migration, plus they can be one of the earliest to arrive on the breeding grounds.

However, there is a risk with staying this far north. Yes, our winters are often mild and pleasant. Then there is this winter, the winter that never ends. Snow, ice and cold are not kind to birds and I'd bet many herons won't be booking a visit to Cape Cod next year.

Hérons have one thing in their favor: they are excellent hunters and are total opportunists. When the fish are frozen out, they'll

eat other things, including crustaceans, mice, voles and small birds. One hungry heron was seen chowing down a litter of feral kittens. I know, I know, I too was upset to read about the herons eating small birds.

Hérons also have one odd behavior that is not in their favor. In the winter they seem to choose and defend a favorite fishing hole. When these areas become frozen solid, some herons don't seem to catch on and often will stand over a frozen stream for days waiting for the fish to return. Boy, talk about stubborn.

The primary lifeline between an incoming sentence and a reader's web of knowledge is the topic. The word "topic" in linguistics actually has two meanings.⁵ In this chapter we have been looking at the topic of a *discourse* or text, namely the subject matter of a series of connected sentences. In chapter 4 we looked at the topic of a *sentence*, namely what that sentence is about. In most English sentences, the topic is the grammatical subject, though it can also be introduced in a separate phrase, like *As for fruit, I prefer blueberries*, or *Speaking of ducks, have you heard the one about the man who walked into a bar with a duck on his head?* In that chapter we saw that in a coherent passage the topic of the discourse is aligned with the topic of the sentence. Now let's see how O'Connor uses this principle over an extended discussion.

The topic of the column is obviously "herons in winter"; that's what the reader asked about. The point of the column is to explain why a heron might stand over a frozen bog. The topic of the first sentence, namely the subject, is also the topic of the column: "Great Blue Herons live and breed . . ." Imagine that it had begun with something like my doctored version, "Canada is a place where herons live and breed." It would knock the reader off balance, because he has no reason at this moment to be thinking about Canada.

As the passage proceeds, O'Connor keeps the herons in subject position. Here is a list of the subjects in order, with the ones referring to herons in the left column, the ones referring to something else in the right column, and horizontal lines separating the paragraphs:

Great Blue Herons live
the herons head
A few come
Most of these herons are

Herons are able to avoid

Spending the winter here has

there is a risk
our winters are
there is this winter
Snow, ice and cold are not kind

Herons have one thing
they are excellent hunters
they'll eat
One hungry heron was seen

I too was upset

Herons also have
they seem to choose
some herons don't seem to catch on

[You] talk about

Putting aside the interjections at the ends of the last two paragraphs, in which the author addresses the reader directly for humorous effect (*I know, I know, I too was upset* and *Talk about stubborn*), the subjects (and hence the sentence topics) are remarkably consistent. In the first, third, and fourth paragraphs, every subject but one consists of herons. The consistent string of sentence topics, all related to the column topic, forms a satisfying arc of coherence over the passage.

Better still, the herons are not just any old subjects. They are actors who do things. They migrate, they avoid danger, they hunt, they eat, they stand. That is a hallmark of classic style, or for that matter any good style. It's always easier for a reader to follow a narrative if he can keep his eyes on a protagonist who is moving the plot forward, rather than on a succession of passively affected entities or zombified actions.

It's worth looking at a couple of tricks that allow O'Connor to keep this unblinking focus on his protagonists. He strategically slips in a passive sentence: *One hungry heron was seen*, as opposed to *Birdwatchers saw one hungry heron*. Though the heron is merely being observed by an unidentified birdwatcher at this point in the passage, the passive voice keeps it in the reader's spotlight of attention. And O'Connor frequently moves temporal modifiers to the front of the sentence: *When the cold weather arrives; When the fish are frozen out; In the winter; When these areas become frozen solid*. This preposing avoids the monotony of a long string of similar sentences, even though herons are the grammatical subjects of every one.

Those temporal modifiers all have something to do with cold weather, and that is also a deliberate choice. The new information in each sentence is about how the herons react to cold weather. So in each of these sentences, some aspect of cold weather (mentioned in the modifier at the beginning) sets the stage for an announcement of what herons do about it (mentioned in the main clause that follows). Given always precedes new.

In the second paragraph, cold weather takes its turn on the stage as a topic in its own right. The transition is orderly. The switch of topic is announced in the penultimate sentence of the first paragraph (*Spending the winter here has its advantages*), and it is maintained consistently in the second, where two of the sentences have cold things as their subjects, and the other two have them in complements to *There is*, which are like subjects. We have a second arc of coherence spanning the text, which links all the manifestations of cold weather.

The arc linking the sentences about herons and the arc linking the sentences about cold weather are two instances of what Williams calls topic strings: they keep the reader focused on a single topic as he proceeds from sentence to sentence. Let's turn now to another arc of coherence, which connects the different appearances of an entity on the reader's mental stage as they come and go over the course of a passage.

The noun system of English provides a writer with ways to distin-

guish entities the reader is being introduced to for the first time from the entities he already knows about. This is the major distinction between the indefinite article, *a*, and the definite article, *the*.⁶ When a character makes his first appearance on stage, he is introduced with *a*. When we are subsequently told about him, we already know who he is, and he is mentioned with *the*:

An Englishman, a Frenchman, and a Jew are sitting in a doctor's waiting room and each is told he has twenty-four hours to live.

They are asked how they plan to spend their final day. The Englishman says, "I'm going to my club to smoke my pipe, sip some sherry, and chat with the blokes." The Frenchman says, "I'm going to call my mistress for a sumptuous dinner, a bottle of the finest wine, and a night of passionate lovemaking." The Jew says, "I'm going to see another doctor."

A (or *an*) and *the* are not the only way that the English language distinguishes indefinite from definite nouns. Indefinite plurals and mass nouns can be introduced with the article *some* (*Some mud was on the floor*; *Some marbles were on the floor*), and they can also appear without an article at all (*Mud was on the floor*; *Marbles were on the floor*). Definiteness can be marked by other *th*-words such as *this*, *that*, *these*, and *those*, or with a genitive noun, as in *Clair's knee* or *Jerry's kids*.

The distinction between a first appearance on stage and subsequent appearances can also be marked by the use of names or indefinite nouns on the one hand and pronouns on the other. Pronouns such as *he*, *she*, *they*, and *it* do more than save keystrokes. They tell the reader, "You've already met this guy; no need to stop and think about a new kid in town."

Stanley Goldfarb died and his relatives and the congregation gathered for an evening of prayers and mourning. When the time came for the mourners to come up and eulogize him, no one stirred. After several minutes, the rabbi was getting anxious. "Someone must have something nice to say about him," he implored. More silence. Finally a voice piped up from the back of the room: "His brother was worse."

Helping a reader keep track of the entities that make repeated appearances in a text is a tricky business. Repeating a name or an indefinite noun can confuse readers by making them think that someone new has walked onto the stage.⁷ (Imagine *Stanley Goldfarb died and Stanley Goldfarb's relatives gathered for an evening of mourning*.) On the other hand, if new characters walk into the scene in the interim, or enough time has passed that the first entrance is a distant memory, a pronoun or definite noun can leave them wondering who *the he* or *the man* is. Bloopers make the danger plain:⁸

Guilt, vengeance, and bitterness can be emotionally destructive to you and your children. You must get rid of them.

After Governor Baldwin watched the lion perform, he was taken to Main Street and fed 25 pounds of raw meat in front of the Cross Keys Theater.

The driver had a narrow escape, as a broken board penetrated his cabin and just missed his head. This had to be removed before he could be released.

My mother wants to have the dog's tail operated on again, and if it doesn't heal this time, she'll have to be put away.

Now let's go back to the herons and see how O'Connor refers to them. He introduces them with an indefinite noun phrase: *Great Blue Herons live*. Now that they are on stage, he switches to a definite noun phrase: *the herons head*. At this point he wants to refer to a subset of

those herons, so he introduces just these ones with the indefinite article: *A few come to Cape Cod*. He refers to that subset a second time, and so it's time to switch back to the definite: *Most of these herons*. Then he makes a rare slip: he tells us that *herons*—indefinite—can avoid the dangers of migration. Since these are herons he introduced us to a few sentences ago, the ones who stop in Cape Cod rather than continuing farther south, I say it should be *The herons* or *These herons*.

After the interlude of the paragraph whose topic is winter, which introduces yet another subset of herons (the hypothetical ones who aren't booking a return trip), we need a reset, and so it's indefinite *Herons* again; on next mention they can safely be identified with the pronoun *they*. The kitten-eating heron is different from the rest, and he's introduced with indefinite *One hungry heron*, followed by a reference back to the little-bird-eating herons; we've already met them, so they're *the herons*, their identity further pinpointed by a reduced relative clause [*that were] eating small birds*.

Pay attention as well to what O'Connor does *not* do as he repeatedly refers to the herons. Other than shifting from *Great Blue Herons* to *herons*, he doesn't strain for new ways of referring to the birds. The herons are herons; they don't turn into *Ardea herodias*, long-legged waders, azure airborne avians, or sapphire sentinels of the skies. Many style experts warn against the compulsion to name things with different words when they are mentioned multiple times. Henry Fowler, author of *Modern English Usage* (next to Strunk and White, the most influential style manual of the twentieth century), sarcastically stigmatized the practice as "elegant variation." Theodore Bernstein called it monologophobia, the fear of using the same word twice, and synonymomania, the "compulsion to call a spade successively *a garden implement* and an *earth-turning tool*." Newspaper editors sometimes warn their writers that if they obey the opposing guideline "Don't use a word twice on one page" they are likely to slip into journalese, peppering their prose with words that journalists use but that people never say, such as the nouns *blaze*, *eaters*, *moniker*, *vehicle*, *slaying*, and *white stuff* (snow), and the verbs *pen*, *quaff*, *slate*, *laud*, *boast* (have), and *sport* (wear).

In fairness to journalists and other synonymomaniacs, there are times when a writer really does need to avoid repeating words in close succession. Take the second sentence in the preceding paragraph, in which I switched from *herons* to *birds*. The alternative would have been "Other than shifting from *Great Blue Herons* to *herons*, he doesn't strain for new ways of referring to the herons." That third "herons" is clunky, even confusing, for the same reason that repeating the name *Stanley Goldfarb* in the funeral joke would have been confusing. Or consider the sentence from the Wikipedia entry on Oedipus: *The baby, he says, was given to him by another shepherd from the Laius household, who had been told to get rid of the child*. The entry uses "the child" because a second mention of "the baby" would not have worked. When a noun is repeated in quick succession, readers may assume that the second mention refers to a different individual and fruitlessly scan the stage for him. They do this because the natural way to refer to an individual a second time is with a pronoun, the word that signals, "You know who this guy is." But sometimes a pronoun doesn't work—in the Oedipus sentence, *get rid of him* would have left it unclear who *him* was referring to—and in that case a generic definite noun phrase like *the child* or *the birds* can serve as an honorary pronoun.

So which guideline should a writer follow, "Avoid elegant variation" or "Don't use a word twice on one page"? Traditional style guides don't resolve the contradiction, but psycholinguistics can help.⁹ Wording should not be varied capriciously, because in general people assume that if someone uses two different words they're referring to two different things. And as we shall soon see, wording should *never* be varied when a writer is comparing or contrasting two things. But wording *should* be varied when an entity is referred to multiple times in quick succession and repeating the name would sound monotonous or would misleadingly suggest that a new actor had entered the scene.

When wording is varied, only certain variations will be easy for the reader to track. The second label is acting as a pseudo-pronoun, so it should be pronounish in two ways. First, it should be more generic than the original noun, applying to a larger class of entities; that's why

the first of these two sequences (which were used in an experiment on understanding stories) is easier to understand than the second:

A bus came roaring around a corner. The vehicle nearly flattened a pedestrian.

A vehicle came roaring around a corner. The bus nearly flattened a pedestrian.

Also, the second label should easily call to mind the first one, so that readers don't have to rack their brains figuring out who or what the writer is talking about. A bus is a typical example of a vehicle, so the backward association from *vehicle* to *bus* is effortless. But if the first sentence had been *A tank came roaring around the corner*, which refers to an atypical example of a vehicle, a reader would have had a harder time making the connection. One of the reasons that O'Connor avoided referring to the herons as *birds* is that a heron is not a typical example of a bird, so readers would not have readily thought "heron" when they saw the word *bird*. It would be another thing if the column had been about sparrows.

In chapter 2 I promised to explain what zombie nouns like *anticipation* and *cancellation* (as opposed to *anticipate* and *cancel*) are doing in the English language. The main answer is that they serve the same role as the pronouns, definite articles, and generic synonyms we have just examined: they allow a writer to refer to something a second time (in this case a situation or an event rather than a person or a thing) without tedium or confusing repetition. Suppose we begin a passage with *The governor canceled the convention today*. At this point it's more coherent to continue it with *The cancellation was unexpected* than with *It was unexpected that the governor would cancel the convention* or *The fact that the governor canceled the convention was unexpected*. So zombie nouns do have their place in the language. The problem with them is that knowledge-cursed writers use them on first mention because they, the writers, have already been thinking about the event, so it's old hat to them and is conveniently summarized by a noun. They forget

that their readers are encountering the event for the first time and need to see it enacted with their own eyes.

In addition to a consistent thread of sentence topics and an orderly way of referring to repeated appearances, there is a third arc of coherence spanning sentences, and that is the logical relationship between one proposition and another. Let's go back to some examples from the chapter opening. What's so confusing about this sequence?

It's an advantage for herons to avoid the dangers of migration. Herons head south when the cold weather arrives.

And what's so funny about these?

The patient has been depressed ever since she began seeing me in 2008.

Miss Charlene Mason sang, "I Will Not Pass This Way Again," giving obvious pleasure to the congregation.

In the doctored passage about herons, the second sentence is a non sequitur: we can't understand why the author is telling us that the birds migrate south just after saying that herons should avoid the dangers of migration. In the original passage, the two statements appeared in the opposite order, and the author connected them with the sentence noting that a few herons come to Cape Cod, where the winters are not too cold. That sentence lays out two arcs of logical coherence: Cape Cod is an *example* of southward migration, and the fact that its winters are not too cold is an *explanation* of why some herons end up there. Readers might still expect herons to choose a warmer destination than Cape Cod—it may not be as cold as some places, but it's a lot colder than others—so in his next sentence O'Connor acknowledges this *violated expectation* and supplies two explanations for the anomaly. One is that some herons (the young and inexperienced ones) may arrive on Cape Cod by accident. The other is that wintering at a relatively northern latitude has advantages

that make up for the disadvantage of its coldness. O'Connor then *elaborates* on this explanation (that there are compensating advantages) with two specific advantages: it's safer not to travel far, and the local herons have first dibs on the breeding grounds come spring.

Now let's turn to the bloopers. The psychiatrist who wrote the first blooper presumably intended his second clause to convey a *temporal sequence* between two events: the patient saw the doctor, and since that time she has been depressed. We interpret it as a *cause-and-effect* sequence: she saw the doctor, and that made her depressed. In the second blooper, the problem does not lie in the relationship between clauses—it's cause-and-effect in both interpretations—but in exactly what causes what. In the intended reading, the pleasure is caused by the singing; in the unintended one, it's caused by the not-passing-this-way-again.

Examples, explanations, violated expectations, elaborations, sequences, causes, and effects are arcs of coherence that pinpoint how one statement follows from another. They are not so much components of language as components of *reason*, identifying the ways in which one idea can lead to another in our train of thought. You might think there are hundreds or even thousands of ways in which one thought can lead to another, but in fact the number is far smaller. David Hume, in his 1748 book, *An Enquiry Concerning Human Understanding*, wrote, "There appear to be only three principles of connections among ideas, namely *Resemblance*, *Contiguity* in time or place, and *Cause or Effect*."¹⁰ The linguist Andrew Kehler argues that Hume basically got it right, though he and other linguists have subdivided Hume's Big Three into about a dozen more specific kinds of connection.¹¹ And more to the point for the language of coherence, they have shown how the connections among ideas are expressed as connections among sentences. The key linguistic couplers are connective words like *because*, *so*, and *but*. Let's take a look at the logic of the coherence relations and how they're typically expressed.

In a resemblance relation, a statement makes a claim that overlaps in content with the one that came before it. The most obvious two are similarity and contrast:

Coherence Relation	Example	Typical Connectives
Similarity	Hérons live in the northern United States. Hérons live in most of Canada.	<i>and, similarly, likewise, too</i>
Contrast	Hérons have one thing in their favor: they are opportunistic hunters. Hérons have one thing not in their favor: they defend a fishing hole even when it is frozen.	<i>but, in contrast, on the other hand, alternatively</i>

Similarity and contrast link two propositions that are similar in most ways but different in at least one way. They call the reader's attention either to the similarities or to the difference. These relations may be conveyed without even using a connective word: all the writer has to do is write the statements using parallel syntax and vary only the words that indicate the difference. Unfortunately, many writers blow the opportunity and capriciously vary their wording as they compare two things, a pernicious kind of synonymomania which flummoxes the reader because he doesn't know whether the writer is directing his attention to the difference between the contrasting things or to some difference between the synonyms. Imagine that O'Connor had written *Hérons are opportunistic hunters, but great blues defend a fishing hole even when it's frozen*. The reader would wonder whether it's only great blue herons that defend frozen fishing holes, or all herons.

It's always surprising to me to see how often scientists thoughtlessly use synonyms in comparisons, because the cardinal principle of experimental design is the Rule of One Variable. If you want to see the effects of a putative causal variable, manipulate that variable alone while holding everything else constant. (If you want to see whether a drug lowers blood pressure, don't enroll your participants in an exercise program at the same time, because if their blood pressure does go down, you'll never know whether it was the drug or the exercise.)

Parallel syntax is just the Rule of One Variable applied to writing: if you want readers to appreciate some variable, manipulate the expression of that variable alone while keeping the rest of the language unchanged. On the left below are two examples—the first expressing similarity, the second expressing contrast—in which scientists do in their prose what they would never do in the lab. On the right are the more rigorously controlled alternatives:

In the ten nations with the largest online populations, non-domestic news sites represent less than 8% of the 50 most visited news sites, while in France, 98% of all visits to news sources are directed to domestic sites.	In the ten nations with the largest online populations, non-domestic news sites represent less than 8% of the 50 most visited news sites; in France, the figure is just 2%.
Children's knowledge of how to use tools could be a result of experience, but also object affordances defined by shape and manipulability may provide cues such that humans do not require much time experimenting with an object in order to discover how it functions.	Children's knowledge of how to use a tool could be a result of their experience with the tool; alternatively, it could be a result of their perceiving the tool's affordances from shape and manipulability cues.

The first sentence, which says that most Internet users go to news sites in their own country, subverts its attempt to express a resemblance relation in three ways. It inverts the syntax (*news sites represent visits to news sources*), it flips the measurement scale (from the percentage of visits to *non-domestic* sites to the percentage of visits to *domestic* sites), and it uses a connective that is perversely ambiguous. If *while* is used in a temporal sense ("at the same time"), it implies similarity; if it is used in a logical sense ("although"), it suggests contrast. Rereading the passage a few times reveals that the authors meant similarity.

The second example also trips over its message. It upends the syntax from one proposition to the other (*Children know how to use tools from experience and Object affordances provide cues [to children about tools]*), and it uses the connective *also* in a confusing way. *Also* implies

similarity or elaboration (another resemblance relation, which we'll get to soon), and the author uses it here to mean that there are at least two hypotheses for how children know how to use tools (rather than the single hypothesis that they know from experience). But he is actually trying to *contrast* the two hypotheses, so *also* pulls the reader in the wrong direction (the author presumably chose it because there is "also" another hypothesis on the table for scientists to consider). The author seems to realize the problem as he proceeds, so he tacks on *such that* to signal that he is contrasting the two hypotheses after all. But it would have been better to rewrite the sentence to convey the contrast from the start, using an unambiguous connective such as *alternatively*. (*Affordance*, by the way, is a psychologist's term for the aspect of an object's appearance that suggests what you can do to it, such as its liftability or its squeezability.)

Similarity and contrast are not the only resemblance relations. In *elaboration*, a single event is first described in a generic way and then in specific detail. Then there are four relations that fall into two neat pairs, depending on which event the author wishes to mention first. There's *exemplification* (a generalization, followed by one or more examples) and *generalization* (one or more examples, followed by a generalization). And there's the opposite, *exception*, which can be introduced either generalization first or exception first.

Coherence Relation	Example	Typical Connectives
Elaboration	Hérons have one thing in their favor: they are total opportunists.	: (colon), <i>that is</i> , <i>in other words</i> , <i>which is to say</i> , <i>also</i> , <i>furthermore</i> , <i>in addition</i> , <i>notice that</i> , <i>which</i>
Exemplification	Hérons are total opportunists. When the fish are frozen out, they'll eat other things, including crustaceans, mice, voles, and small birds.	<i>for example</i> , <i>for instance</i> , <i>such as</i> , <i>including</i>

Coherence Relation	Example	Typical Connectives
Generalization	When the fish are frozen out, herons will eat other things, including crustaceans, mice, voles, and small birds. They are total opportunists.	<i>in general, more generally</i>
Exception:	Cape Cod winters are often mild and pleasant. Then there is this winter, the winter that never ends.	<i>however, on the other hand, then there is</i>
Exception: exception first	This winter seems like it will never end. Nonetheless, Cape Cod winters are often mild and pleasant.	<i>nonetheless, nevertheless, still</i>

The second of Hume's family of relations is contiguity: a before-and-after sequence, usually with some connection between the two events. Here, too, the English language gives us the means to mention the events in either order while holding the meaning constant.

Coherence Relation	Example	Typical Connectives
Sequence: before-and-after	The cold weather arrives and then the herons head south.	<i>and, before, then</i>
Sequence: after-and-before	The herons head south when the cold weather arrives.	<i>after, once, while, when</i>

The language gives writers a second way of controlling the order in which two events are mentioned. Not only can they choose between *before* and *after*, but they can also choose whether to prepose a temporal modifier or leave it in its place: *After the cold weather arrives, the*

herons head south versus *The herons head south after the cold weather arrives*.

But here the language may be a bit too clever for its own users. Though English cleanly distinguishes the order in which two things happened in the world from the order in which they are mentioned in a text, English speakers tend to be more concrete, and naturally assume that the order in which events are mentioned is the order in which they took place (as in the old wisecrack *They got married and had a baby, but not in that order*). All things being equal, it's good for a writer to work with the ongoing newsreel in readers' minds and describe events in chronological order: *She showered before she ate* is easier to understand than *She ate after she showered*. For the same reason, *After she showered, she ate* is easier than *Before she ate, she showered*.¹² Of course, things are not always equal. If the spotlight of attention has been lingering on a later event, and now the writer must introduce an earlier one, the imperative to mention given before new trumps the imperative to mention early before late. For example, if you had been staring at the wet footprints leading to the breakfast table and were seeking an explanation, it would be more helpful to hear *Before Rita ate, she showered* than *After Rita showered, she ate*.

And this brings us to Hume's third category of connections, cause and effect. Here again the English language is mathematically elegant and provides the writer with a neat group of symmetries. She can state the cause first or the effect first, and the causal force can either make something happen or prevent it from happening.

Coherence Relation	Example	Typical Connectives
Result (cause-effect)	Young herons are inexperienced, so some of them migrate to Cape Cod.	<i>and, as a result, therefore, so</i>
Explanation (effect-cause)	Some herons migrate to Cape Cod, because they are young and inexperienced.	<i>because, since, owing to</i>

Coherence Relation	Example	Typical Connectives
Violated expectation (preventer-effect)	Hérons have a tough time when the ponds freeze over. However, they will hunt and eat many other things.	<i>but, while, however, nonetheless, yet</i>
Failed prevention (effect-preventer)	Hérons will hunt and eat many things in winter, even though the ponds are frozen over.	<i>despite, even though</i>

One other major coherence relation doesn't easily fit into Hume's trichotomy, *attribution*: so-and-so believes such-and-such. Attribution is typically indicated by connectives like *according to* and *stated that*. It's important to get it right. In many written passages it's unclear whether the author is arguing for a position or is explaining a position that someone else is arguing for. This is one of the many problems in Bob Dole's sentence about intervening in Serbia (page 112).

There are a few other coherence relations, such as anticipations of a reaction by the reader (*yes; I know; I know*). There are also gray areas and various ways to lump and split the relations, which give linguists plenty of things to argue about.¹³ But these dozen or so cover most of the territory. A coherent text is one in which the reader always knows which coherence relation holds between one sentence and the next. In fact, coherence extends beyond individual sentences and also applies to entire branches in the discourse tree (in other words, to items in an essay outline). Several propositions may be interconnected by a set of coherence relations, and the resulting chunk is in turn connected to others. For example, the heron chowing down feral kittens was *similar* to the herons eating crustaceans, mice, and small birds. The entire set of these meals is now united as a single block of text which serves as an *exemplification* of herons eating things other than fish. And their ability to eat nonfishy meals is, in turn, an *elaboration* of their being opportunistic hunters.

Coherence relations among sets of sentences need not be perfectly

treelike. They also drape across long stretches of text. The odd behavior of defending a frozen fishing hole connects all the way back to the reader's question at the beginning of the column. It is an *explanation*, a cause of the effect she was asking about.

As a writer bangs out sentences, she needs to ensure that her readers can reconstruct the coherence relations she has in mind. The obvious way to do this is to use the appropriate connectives. The "typical" connectives in the charts, however, are only typical, and writers can leave them out when the connection is obvious to the reader. It's an important choice. Too many connectives can make it seem as if an author is laboring the obvious or patronizing the reader, and it can give prose a pedantic feel. Just imagine the sequence *Hérons live in the northern United States; similarly, herons live in most of Canada. Or Herons have one thing in their favor. . . . In contrast, herons have one thing not in their favor*. Too few connectives, on the other hand, can leave the reader puzzled as to how one statement follows from the last.

Even more challenging, the optimal number of connectives depends on the expertise of the reader.¹⁴ Readers who are familiar with the subject matter will already know a lot about what is similar to what else, what causes what else, and what tends to accompany what else, and they don't need to have these connections spelled out in so many words. They may even get confused if the writer spells out the obvious ones: they figure that she must have a good reason to do so and therefore that she must really be making some *other* claim, one that isn't so obvious, which they then waste time trying to discern. In the case of where herons live, most readers know that the northern United States is contiguous to Canada and that the two have similar ecosystems, so they don't need a *similarly*. If the author had mentioned less familiar birds and territories—say, that crested honey buzzards live in Yakutsk and Shenyang—the reader might appreciate being told whether the territories are similar, which would imply that the species is adapted to a specific ecosystem, or dissimilar, implying that it is widespread and flexible.

Figuring out the right level of explicitness for coherence relations is a major reason that a writer needs to think hard about the state of

knowledge of her readers and show a few of them a draft to see whether she got it right. It's an aspect of the art of writing which depends on intuition, experience, and guesswork, but there is also an overarching guideline. Humans are cursed with attributing too much of their own knowledge to others (chapter 3), which means that overall there is a greater danger of prose being confusing because it has too few connectives than pedantic because it has too many. When in doubt, connect.

If you do indicate a connection, though, do it just once. Prose becomes stuffy when an insecure writer hammers the reader over the head with redundant indicators of a connection, as if unsure that one would be enough.

Perhaps the reason so many people are in the dark is because they want it that way. [explanation]

Perhaps the reason so many people are in the dark is that they want it that way.

There are many biological influences of psychological traits such as cognitive ability, conscientiousness, impulsivity, risk aversion, and the like. [exemplification]

There are many biological influences of psychological traits such as cognitive ability, conscientiousness, impulsivity, and risk aversion.

We separately measured brainwide synchronization in local versus long-range channel pairs. [contrast]

We separately measured brainwide synchronization in local and long-range channel pairs.

The first redundancy, *the reason is because*, is widely disliked, because the word *reason* already implies that we are dealing with an explanation, and we don't need a *because* to remind us. (Some purists also frown on *the reason why*, but it has been used by good writers for centuries and should be no more exceptionable than *the place where* or *the time when*.) Gratuitous redundancy makes prose difficult not just because readers have to duplicate the effort of figuring something out, but because they naturally assume that when a writer says two things she means two things, and fruitlessly search for the nonexistent second point.

Coherence connectives are the unsung heroes of lucid prose. They aren't terribly frequent—most of them occur just a handful of times every 100,000 words—but they are the cement of reasoning and one of the most difficult yet most important tools of writing to master. A recent analysis of underperforming high school students showed that many of them, even those who read well, were stymied by the challenge of writing a coherent passage.¹⁵ One student, asked to write an essay on Alexander the Great, managed to come up with “I think Alexander the Great was one of the best military leaders,” then turned to her mother and said, “Well, I got a sentence down. What now?” A failure to command coherence connectives turned out to be among the skills that most sharply differentiated the struggling students from their successful peers. When these students were asked to read *Of Mice and Men* and complete a sentence beginning with “Although George,” many were stumped. A few wrote, “Although George and Lenny were friends.” The teachers introduced a program that explicitly trained the students to construct coherent arguments, with a focus on the connections between successive ideas. It was a radical shift from the kind of assignment that dominates high school writing instruction today, in which students are asked to write memoirs and personal reflections. The students showed dramatic improvements in their test scores in several subjects, and many more of them graduated from high school and applied to college.

It's no coincidence that we use the word “coherent” to refer both to concrete passages of text and to abstract lines of reasoning, because the logical relations that govern them—implication, generalization, counterexample, denial, causation—are the same. Though the claim that good prose leads to good thinking is not always true (brilliant thinkers can be clumsy writers, and slick writers can be glib thinkers), it may be true when it comes to the mastery of coherence. If you try to repair an incoherent text and find that no placement of *therefore*s and *moreovers* and *however*s will hold it together, that is a sign that the underlying argument may be incoherent, too.

Coherence depends on more than mechanical decisions such as keeping the topic in subject position and choosing appropriate connectives. It depends as well on impressions that build up in a reader over the course of reading many paragraphs and that depend on the author's grasp of the text as a whole.

Let me explain what I mean by sharing my reaction to another passage, this one much loftier in tone and ambition than "Ask the Bird Folks." It is the opening of John Keegan's 1993 magnum opus, *A History of Warfare*:

War is not the continuation of policy by other means. The world would be a simpler place to understand if this dictum of Clausewitz's were true. Clausewitz, a Prussian veteran of the Napoleonic wars who used his years of retirement to compose what was destined to become the most famous book on war—called *On War*—ever written, actually wrote that war is the continuation "of political intercourse" (*des politischen Verkehrs*) "with the intermixing of other means" (*mit Einmischung anderer Mittel*). The original German expresses a more subtle and complex idea than the English words in which it is so frequently quoted. In either form, however, Clausewitz's thought is incomplete. It implies the existence of states, of state interests and of rational calculation about how they may be achieved. Yet war antedates the state, diplomacy and strategy by many millennia. Warfare is almost as old as man himself, and reaches into the most secret places of the human heart, places where self dissolves rational purpose, where pride reigns, where emotion is paramount, where instinct is king. "Man is a political animal," said Aristotle. Clausewitz, a child of Aristotle, went no further than to say that a political animal is a warmaking animal. Neither dared confront the thought that man is a thinking animal in whom the intellect directs the urge to hunt and the ability to kill.¹⁶

Keegan is among the most esteemed military historians who ever lived, and *A History of Warfare* was a critically acclaimed best-seller. Several reviews singled out the quality of his writing for praise. Certainly the mechanics here are sound, and at first glance, so is the coherence. The topics are war and Clausewitz, and we have a number of connectives, like *however* and *yet*. Nonetheless, I found this paragraph barely coherent.

The problems begin in the first sentence. Why is a book on warfare starting out by telling us what war is *not*? I recognized the dictum from Clausewitz, but it was hardly uppermost in my mind as I began a book on war, if for no other reason than that I always found it obscure—an impression confirmed by Keegan's equivocal explanation in the third and fourth sentences. If Clausewitz's dictum is so subtle, complex, and misunderstood, how is the reader being enlightened by being told it is false? And if even the people who are familiar with the dictum don't know what it means, how could the world be "simpler" if it were true? For that matter, *is* the dictum false? Keegan now tells us that it's merely "incomplete." Should he have begun, "War is not *just* the continuation of policy by other means"?

OK, I tell myself, I'll wait for the rest of the explanation. Soon we are told that war reaches into a place where emotion is paramount, where instinct is king. But two sentences later we're told that the instinct to hunt and kill is directed by the intellect. These can't both be true: kings don't take orders, so instinct cannot be a king *and* be directed by the intellect. Let's go with the last thing we were told and assume it's the intellect that's in charge. So what part of this thought did Clausewitz and Aristotle (and what's *he* suddenly doing in this conversation?) fail to confront: the fact that man is a thinking animal, or the fact that what he thinks about is how to hunt and kill?

The confusing opening of *A History of Warfare* provides us with an opportunity to look at three other contributors to coherence, which are conspicuous here by their absence: clear and plausible negation, a sense of proportion, and thematic consistency.

The first problem is Keegan's maladroiti use of negation. Logically speaking, a sentence with a naysaying word like *not*, *no*, *neither*, *nor*, or *never* is just the mirror image of an affirmative sentence. Saying that the integer 4 is not odd is logically the same as saying that it is even. If something is not alive, then it's dead, and vice versa. But psychologically speaking, a negative statement and an affirmative statement are fundamentally different.¹⁷

More than three centuries ago, Baruch Spinoza pointed out that the human mind cannot suspend disbelief in the truth or falsity of a statement and leave it hanging in logical limbo awaiting a "true" or "false" tag to be hung on it.¹⁸ To hear or read a statement is to believe it, at least for a moment. For us to conclude that something is *not* the case, we must take the extra cognitive step of pinning the mental tag "false" on a proposition. Any statement that is untagged is treated as if it is true. As a result, when we have a lot on our minds, we can get confused about where the "false" tag belongs, or can forget it entirely. In that case what is merely mentioned can become true. Richard Nixon did not allay suspicions about his character when he declared, "I am not a crook," nor did Bill Clinton put rumors to rest when he said, "I did not have sexual relations with that woman." Experiments have shown that when jurors are told to disregard the witness's remarks, they never do, any more than you can follow the instruction "For the next minute, try not to think about a white bear."¹⁹

The cognitive difference between believing that a proposition is true (which requires no work beyond understanding it) and believing that it is false (which requires adding and remembering a mental tag) has enormous implications for a writer. The most obvious is that a negative statement such as *The king is not dead* is harder on the reader than an affirmative one like *The king is alive*.²⁰ Every negation requires mental homework, and when a sentence contains many of them the reader can be overwhelmed. Even worse, a sentence can have more negations than you think it does. Not all negation words begin with *no*; many have the concept of negation tucked inside them, such as *few*, *little*, *least*,

seldom, *though*, *rarely*, *instead*, *doubt*, *deny*, *refute*, *avoid*, and *ignore*.²¹ The use of multiple negations in a sentence (like the ones on the left below) is arduous at best and bewildering at worst:

According to the latest annual report on violence, Sub-Saharan Africa for the first time is <u>not</u> the world's <u>least</u> peaceful region.	According to the latest annual report on violence, Sub-Saharan Africa for the first time is <u>not</u> the world's most violent region.
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The experimenters found, <u>though</u> , that the infants did <u>not</u> respond as predicted to the appearance of the ball, but <u>instead</u> did <u>not</u> look significantly longer than they did when the objects were <u>not</u> swapped.	The experimenters predicted that the infants would look longer at the ball if it had been swapped with another object than if it had been there all along. In fact, the infants looked at the balls the same amount of time in each case.
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The three-judge panel issued a ruling <u>lifting</u> the stay on a district judge's injunction to <u>not</u> enforce the <u>ban</u> on same-sex marriages.	The three-judge panel issued a ruling that allows same-sex marriages to take place. There had been a ban on such marriages, and a district judge had issued an injunction not to enforce it, but a stay had been placed on that injunction. Today the panel <u>lifted</u> the stay.
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As the Duchess in *Alice in Wonderland* explained, "The moral of that is—'Be what you would seem to be'—or, if you'd like it put more simply—'Never imagine yourself not to be otherwise than what it might appear to others that what you were or might have been was not otherwise than what you had been would have appeared to them to be otherwise.'"

It's not just readers who are confused by negations. Writers themselves can lose track and put too many of them into a word or sentence, making it mean the opposite of what they intended. The linguist Mark Liberman calls them misnegations, and points out that "they're easy to fail to miss."²²

After a couple of days in Surry County, I found myself no less closer to unraveling the riddle.

No head injury is too trivial to ignore.

It is difficult to underestimate Paul Fussell's influence.

Patty looked for an extension cord from one of the many still unpacked boxes.

You'll have to unpeel those shrimp yourself.

Can you help me unloosen this lid?

The difficulty posed by negations has long been noted in style manuals.

Dave Barry's "Ask Mr. Language Person" satirized their typical advisory:

WRITING TIP FOR PROFESSIONALS: To make your writing more appealing to the reader, avoid "writing negatively." Use positive expressions instead.

WRONG: "Do not use this appliance in the bathtub."

RIGHT: "Go ahead and use this appliance in the bathtub."

The satire makes a serious point. Like most advice on style that is couched as a commandment rather than an explanation, the flat directive to avoid negations is almost useless. As Mr. Language Person implies, sometimes a writer really does need to express a negation. How long could you go in a day without using the words *no* and *not*? The sarcastic question "What part of 'no' don't you understand?" reminds us that negation is perfectly easy for people to handle in everyday speech. Why should it be so hard in writing?

The answer is that negation is easy to understand when the proposition being negated is plausible or tempting.²³ Compare the negations in these two columns:

A whale is not a fish.

A herring is not a mammal.

Barack Obama is not a Muslim.

Hillary Clinton is not a Muslim.

Vladimir Nabokov never won a Nobel Prize.

Vladimir Nabokov never won an Oscar.

The sentences in the left-hand column all deny a proposition that it would be reasonable for readers to entertain. A whale looks like a big fish; Obama has been the subject of rumors about his religion; Nabokov was denied the Nobel Prize in Literature that many critics thought he deserved. Experiments have shown that statements like the ones in the left column, which deny a plausible belief, are easier to understand than statements in the right column, which deny an implausible belief. The first reaction to reading a sentence on the right is, "Who would ever have thought it was?" (Or she was? Or he did?) Negative sentences are easy when the reader already has an affirmative in mind or can create one on short notice; all he has to do is pin a "false" tag onto it. But concocting a statement that you have trouble believing in the first place (such as "A herring is a mammal"), and then negating it, requires two bouts of cognitive heavy lifting rather than one.

And now we see why the opening to *A History of Warfare* is so puzzling. Keegan began by denying a proposition that was not particularly compelling to the reader in the first place (and which became no more compelling upon further explanation). The same is true for the two baffling sentences I used on page 140, the ones about moderate drinkers and Serbian intervention. In all these cases, the reader is apt to think, "Who ever thought it was?" When an author has to negate something that a reader doesn't already believe, she has to set it up as a plausible belief on his mental stage before she knocks it down. Or, to put it more positively, when a writer wants to negate an unfamiliar proposition, she should unveil the negation in two stages:

1. You might think . . .
2. But no.

That's what I did in repairing the sentences on page 141.

The other feature of negation that Keegan mishandled is making the negation unambiguous, which requires nailing down two things: its *scope* and its *focus*.²⁴ The scope of a logical operator such as *not*, *all*, or *some* consists of the exact proposition it pertains to. When the

Boston–New York train arrives at smaller stations along the route, the conductor announces, “All doors will not open.” I momentarily panic, thinking that we’re trapped. Of course what he means is that not all doors will open. In the intended reading, the negation operator *not* has scope over the universally quantified proposition “All doors will open.” The conductor means, “It is not the case that [all doors will open].” In the unintended reading, the universal quantifier *all* has scope over the negated proposition “Doors will not open.” Claustrophobic passengers hear it as “For all doors, it is the case that [the door will not open].”

The conductor is not making a grammatical error. It’s common in colloquial English for a logical word like *all*, *not*, or *only* to cling to the left of the verb even when its scope encompasses a different phrase.²⁵ In the train announcement, the *not* has no logical business being next to *open*; its logical scope is *All doors will open*, so it really belongs outside the clause, before *All*. But English is more flexible than what a logician would have designed, and the context generally makes it clear what the speaker means. (No one on the train but me seemed in any way alarmed.) Similarly, a logician might say that the song “I Only Have Eyes for You” should be retitled “I Have Eyes for Only You,” because the singer has more than just eyes, and he uses those eyes for more than ogling someone; it’s just that when he does ogle someone with those eyes, it’s you he ogles. Likewise, the logician would argue, *You only live once* should be rewritten as *You live only once*, with *only* next to the thing it quantifies, *once*.

This logician would be unbearably pedantic, but there is a grain of good taste in the pedantry. Writing is often clearer and more elegant when a writer pushes an *only* or a *not* next to the thing that it quantifies. In 1962 John F. Kennedy declared, “We choose to go to the moon not because it is easy but because it is hard.”²⁶ That sounds a lot classier than “We don’t choose to go to the moon because it is easy but because it is hard.” Not only is it classier; it’s clearer. Whenever a sentence has a *not* and a *because*, and the *not* remains stuck to the auxiliary verb, readers may be left in the dark about the scope of the negation and hence about what the sentence means. Suppose that Kennedy had said,

“We don’t choose to go to the moon because it is easy.” Listeners would not have known whether Kennedy was choosing to scuttle the moon program (because it was too easy) or whether he was choosing to go ahead with the moon program (but for some reason other than how easy it was). Pushing the *not* next to the phrase it negates eliminates the scope ambiguity. Here’s a rule: Never write a sentence of the form “X not Y because Z,” such as *Dave is not evil because he did what he was told*. It should be either *Dave is not evil, because he did what he was told*, where the comma keeps the *because* outside the scope of the *not*, or *Dave is evil not because he did what he was told* (but for some other reason), where the *because* occurs next to the *not*, indicating that it is within its scope.

When a negative element has wide scope (that is, when it applies to the whole clause), it is not literally ambiguous, but it can be maddeningly vague. The vagueness lies in the *focus* of the negation—which phrase the writer had in mind as falsifying the whole sentence. Take the sentence *I didn’t see a man in a gray flannel suit*. It could mean:

- I* didn’t see him; Amy did.
- I* didn’t see him; you just thought I did.
- I* didn’t see him; I was looking away.
- I* didn’t see *him*; I saw a different man.
- I* didn’t see a *man* in a gray suit; it was a woman.
- I* didn’t see a man in a *gray* flannel suit; it was brown.
- I* didn’t see a man in a gray *flannel* suit; it was polyester.
- I* didn’t see a man in a gray flannel *suit*; he was wearing a kilt.

In conversation, we can stress the phrase we wish to deny, and in writing we can use italics to do the same thing. More often, the context makes it clear which affirmative statement was plausible in the first place, and hence which one the writer is going to the trouble of denying. But if the subject matter is unfamiliar and has many parts, and if the writer doesn’t set the reader up by focusing on one of those parts as a fact worth taking seriously, the reader may not know what he should

no longer be thinking. That is the problem with Keegan's puzzling speculation about the multipart thought that Clausewitz and Arisotle dared not confront, that man is a thinking animal in whom the intellect directs the urge to hunt and the ability to kill: were they spooked by the possibility that man thinks, that he's an animal, or that he thinks about hunting and killing?

Now let's give Keegan a chance to explain the thought. He does so in the book's second paragraph, which I'll use to illustrate, by its absence, another principle of coherence—a sense of proportion:

This is not an idea any easier for modern man to confront than it was for a Prussian officer, born the grandson of a clergyman and raised in the spirit of the eighteenth-century Enlightenment. For all the effect that Freud, Jung and Adler have had on our outlook, our moral values remain those of the great monotheistic religions, which condemn the killing of fellow souls in all but the most constrained circumstances. Anthropology tells us and archaeology implies that our uncivilised ancestors could be red in tooth and claw; psychoanalysis seeks to persuade us that the savage in all of us lurks not far below the skin. We prefer, none the less, to recognise human nature as we find it displayed in the everyday behaviour of the civilised majority in modern life—imperfect, no doubt, but certainly cooperative and frequently benevolent. Culture to us seems the great determinant of how human beings conduct themselves; in the relentless academic debate between “nature and nurture,” it is the “nurture” school which commands greater support from the bystanders. We are cultural animals and it is the richness of our culture which allows us to accept our undoubted potentiality for violence but to believe nevertheless that its expression is a cultural aberration. History lessons remind us that the states in which we live, their institutions, even their laws, have come to us through conflict, often of the most bloodthirsty sort. Our daily diet of news brings us reports of the shedding of blood, often in regions quite close to our homelands, in circumstances

that deny our conception of cultural normality altogether. We succeed, all the same, in consigning the lessons both of history and of reportage to a special and separate category of “otherness” which invalidate our expectations of how our own world will be tomorrow and the day after not at all. Our institutions and our laws, we tell ourselves, have set the human potentiality for violence about with such restraints that violence in everyday life will be punished as criminal by our laws, while its use by our institutions of state will take the particular form of “civilised warfare.”²⁷

I think I see what Keegan is getting at—humans have innate impulses toward violence, yet today we try to deny it—but the momentum of his presentation pushes in the other direction. Most of this passage says the opposite: that we *couldn't help* but be aware of humanity's dark side. Keegan loads us up with reminders of the dark side, including Freud, Jung, Adler, anthropology, archaeology, psychoanalysis, the savage in all of us, our undoubted potentiality for violence, history lessons about conflict, bloodthirsty violence, our daily diet of news, reports of the shedding of blood, the human potentiality for violence, and violence in everyday life. The reader starts to think, Who is this “we” who fail to appreciate them?

The problem here is a lack of balance, of proportionality. An important principle in composition is that the amount of verbiage one devotes to a point should not be too far out of line with how central it is to the argument. If a writer believes that 90 percent of the evidence and argument supports a position, then something like 90 percent of the discussion should be devoted to the reasons for believing it. If a reader is spending only 10 percent of his time on why it's a good idea, and fully 90 percent on why he might reasonably think it's a bad idea—while the writer insists all along that it really is a good idea—then the reader's mounting impressions will be at cross-purposes with the author's intent. The author then must furiously try to minimize what she has been saying, which only arouses the reader's suspicions. Keegan tries to dig himself out from under his own heap of counterevidence by repeatedly

issuing pronouncements about what an unidentified "we" stubbornly and defensively believe—which only prompts the reader to think, "Speak for yourself!" The reader gets the feeling that he's being bullied rather than persuaded.

Of course, responsible writers have to deal with counterarguments and counterevidence. But if there are enough of them to merit an extended discussion, they deserve a section of their own, whose stated point is to examine the contrary position. A fair-minded examination of the counterevidence can then occupy as much space as it needs, because its bulk will reflect its importance *within that section*. This divide-and-conquer strategy is better than repeatedly allowing counterexamples to intrude into the main line of an argument while browbeating readers into looking away.

After a page-long digression on pacifism, Christianity, and the Roman Empire, Keegan returns to what is wrong with Clausewitz's dictum and with the modern understanding of war it captures. The passage will help us appreciate a third principle of text-wide coherence:

[Clausewitz's dictum] certainly distinguished sharply between the lawful bearer of arms and the rebel, the freebooter and the brigand. It presupposed a high level of military discipline and an awesome degree of obedience by subordinates to their lawful superiors. . . . It assumed that wars had a beginning and an end.

What it made no allowance for at all was war without beginning or end, the endemic warfare of non-state, even pre-state peoples, in which there was no distinction between lawful and unlawful bearers of arms, since all males were warriors; a form of warfare which had prevailed during long periods of human history and which, at the margins, still encroached on the life of civilised states and was, indeed, turned to their use through the common practice of recruiting its practitioners as "irregular" light cavalry and infantrymen. . . . During the eighteenth century the expansion of such forces—Cossacks, "hunters," Highlanders, "borderers," Hussars—had been one of the most noted contemporary military

developments. Over their habits of looting, pillage, rape, murder, kidnapping, extortion and systematic vandalism their civilised employers chose to draw a veil.²⁸

This is all quite fascinating, but over the next six pages the paragraphs jump around between descriptions of the Cossacks' way of war and still more exegesis of Clausewitz. Like the "we" of the second paragraph, who supposedly see plenty of violence while denying its importance, the hapless "Clausewitz" character in this narrative shows plenty of awareness of the Cossacks' cruel and cowardly ways, but, according to Keegan, he still failed to come to grips with them. Once again the bulk of the verbiage pushes in one direction while the content of the author's argument pushes in the other. Keegan concludes the section:

It is at the cultural level that Clausewitz's answer to his question, What is war?, is defective. . . . Clausewitz was a man of his times, a child of the Enlightenment, a contemporary of the German Romantics, an intellectual, a practical reformer. . . . Had his mind been furnished with just one extra intellectual dimension. . . . he might have been able to perceive that war embraces much more than politics: that it is always an expression of culture, often a determinant of cultural forms, in some societies the culture itself.²⁹

Now, wait a minute! Didn't Keegan tell us in the second paragraph that the problem with Clausewitz and his heirs is that they all put *too much* stock in culture? Didn't he say that it's our culture which allows us to believe that violence is an aberration, and that the primitive warfare we choose to ignore is a manifestation of nature, biology, and instinct? Then how can Clausewitz's problem be that he didn't put *enough* stock in culture? For that matter, how can Clausewitz be a product both of the Enlightenment *and* of the German Romantic movement, which arose in reaction to the Enlightenment? And while we're at it, how can his being the grandson of a clergyman, and our moral values being those of the monotheistic religions, be reconciled with all of us

being children of the Enlightenment, which *opposed* the monotheistic religions?

To be fair to Keegan, after reading his book I don't think he is quite as confused as the first few pages suggest. If you put aside the slaphappy allusions to grand intellectual movements, you can see that he does have a point, namely that the disciplined warfare of modern states is a departure from the opportunistic rapacity of traditional tribes, that traditional warfare has always been more common, and that it has never gone away. Keegan's problem is that he flouts another principle of coherence in writing, the last one we will visit in this chapter.

Joseph Williams refers to the principle as *consistent thematic strings*, thematic consistency for short.³⁰ A writer, after laying out her topic, will introduce a large number of concepts which explain, enrich, or comment on that topic. These concepts will center on a number of themes which make repeated appearances in the discussion. To keep the text coherent, the writer must allow the reader to keep track of these themes by referring to each in a consistent way or by explaining their connection. We looked at a version of this principle when we saw that to help the reader keep track of a single entity across multiple mentions, a writer should not flip-flop between unnecessary synonyms. Now we can generalize the principle to *sets* of related concepts, that is, to themes. The writer should refer to each theme in a consistent way, one that allows the reader to know which is which.

Here, then, is the problem. Keegan's topic is the history of warfare—that part is clear enough. His themes are the primitive form of warfare and the modern form of warfare. But he discusses the two themes by traipsing among a set of concepts that are only loosely related to the theme and to one another, each in a way that caught Keegan's eye but that is obscure to the whipsawed reader. With the benefit of hindsight, we can see that the concepts fall into two loose clusters, each corresponding to one of Keegan's themes:

Clausewitz, modern warfare, states, political calculations, strategy, diplomacy, military discipline,	Primitive warfare, tribes, clans, irregulars, freebooters, brigands, Cossacks, looting and pillaging, instinct, nature, Freud, the emphasis on instinct
"we," the intellect, Aristotle, the pacifist aspect of monotheistic religions, the criminal justice system, civilized constraints on warfare, the intellectualizing aspect of the Enlightenment, the ways in which culture constrains violence	evidence for violence, archaeological evidence for violence, conflict in history, crime in the news, the ways in which culture encourages violence

We can also reconstruct why each term might have reminded him of some other term. But it's better when the common threads are made explicit, because in the vast private web of a writer's imagination, anything can be similar to anything else. Jamaica is like Cuba; both are Caribbean island nations. Cuba is like China; both are led by regimes that call themselves communist. But a discussion of "countries like Jamaica and China" which fails to identify their commonality—being similar in some way to Cuba—is bound to be incoherent.

How might an author have presented these themes in a more coherent way? In *The Remnants of War*, the political scientist John Mueller covers the same territory as Keegan and picks up where Keegan left off. He argues that modern war is becoming obsolete, leaving primitive, undisciplined warfare as the major kind of war remaining in the world today. But Mueller's exposition of the two themes is a model of coherence:

Broadly speaking, there seem to be two methods for developing combat forces—for successfully cajoling or coercing collections of men into engaging in the violent, profane, sacrificial, uncertain, masochistic, and essentially absurd enterprise known as war. The two methods lead to two kinds of warfare, and the distinction can be an important one.

Intuitively, it might seem that the easiest (and cheapest) method for recruiting combatants would be to . . . enlist those

who revel in violence and routinely seek it out or who regularly employ it to enrich themselves, or both. We have in civilian life a name for such people—criminals. . . . Violent conflicts in which people like that dominate can be called criminal warfare, a form in which combatants are induced to wreak violence primarily for the fun and material profit they derive from the experience.

Criminal armies seem to arise from a couple of processes. Sometimes criminals—robbers, brigands, freebooters, highwaymen, hoodlums, thugs, bandits, pirates, gangsters, outlaws—organize or join together in gangs or bands or mafias. When such organizations become big enough, they can look and act a lot like full-blown armies.

Or criminal armies can be formed when a ruler needs combatants to prosecute a war and concludes that the employment or impressment of criminals and thugs is the most sensible and direct method for accomplishing this. In this case, criminals and thugs essentially act as mercenaries.

If happens, however, that criminals and thugs tend to be undesirable warriors. . . . To begin with, they are often difficult to control. They can be troublemakers: unruly, disobedient, and mutinous, often committing unauthorized crimes while on (or off) duty that can be detrimental or even destructive of the military enterprise. . . .

Most importantly, criminals can be disinclined to stand and fight when things become dangerous, and they often simply desert when whim and opportunity coincide. Ordinary crime, after all, preys on the weak—on little old ladies rather than on husky athletes—and criminals often make willing and able executioners of defenseless people. However, if the cops show up they are given to flight. The motto for the criminal, after all, is not a variation of “Semper fi,” “All for one and one for all,” “Duty, honor, country,” “Banzai,” or “Remember Pearl Harbor,” but “Take the money and run.” . . .

These problems with the employment of criminals as combatants have historically led to efforts to recruit ordinary men as

combatants—people who, unlike criminals and thugs, commit violence at no other time in their lives. . . .

The result has been the development of disciplined warfare in which men primarily inflict violence not for fun and profit but because their training and indoctrination have instilled in them a need to follow orders; to observe a carefully contrived and tendentious code of honor; to seek glory and reputation in combat; to love, honor, or fear their officers; to believe in a cause; to fear the shame, humiliation, or costs of surrender; or, in particular, to be loyal to, and to deserve the loyalty of, their fellow combatants.³¹

There’s no mistaking what the themes of Mueller’s discussion are; he tells us in so many words. One of them he calls criminal warfare, and he then explores it in five consecutive paragraphs. He starts by reminding us what a criminal is, and explaining how criminal warfare works. The next two paragraphs elaborate on each of the ways in which criminal armies may form, and the two after that explain the two problems that criminal armies pose for their leaders, one problem per paragraph. These problems naturally lead Mueller to his second theme, disciplined warfare, and he explains that theme in the two consecutive paragraphs.

The discussion of each theme coheres not just because it is localized in a string of consecutive paragraphs but because it refers to the theme using a set of transparently related terms. In one thematic string we have terms like *criminals*, *criminal warfare*, *crime*, *fun*, *profit*, *gangs*, *mafias*, *thugs*, *mercenaries*, *troublemakers*, *preys on the weak*, *executioners*, *violence*, *desertion*, *flight*, *whim*, *opportunity*, and *run*. In the other we have *ordinary men*, *training*, *indoctrination*, *honor*, *glory*, *reputation*, *shame*, *loyalty*, *code*, and *believe in a cause*. We don’t have to puzzle over what the words in each cluster have to do with one another, as we did for Keegan’s Clausewitz, *culture*, *states*, *policy*, *Enlightenment*, *political animal*, *criminal justice*, *monotheistic religions*, *Aristotle*, and so on. The threads that connect them are obvious.

The thematic coherence in Mueller’s exposition is a happy conse-

quence of his use of classic style, particularly the imperative to show rather than tell. As soon as we see the thugs preying on little old ladies and fleeing when the cops show up, we appreciate how an army composed of such men would operate. We also see how the leader of a modern state would seek a more reliable way to deploy muscle to advance its interests, namely by developing a well-trained modern army. We can even understand how, for these modern states, war can become the continuation of policy by other means.

In all of my previous examples of bad writing I picked on easy marks: deadline-pressured journalists, stuffy academics, corporate hacks, the occasional inexperienced student. How could a seasoned author like John Keegan, a man who shows frequent flashes of writerly flair, serve as a model of incoherent writing, comparing badly with a guy who sells birdseed on Cape Cod? Part of the answer is that male readers will put up with a lot in a book called *A History of Warfare*. But most of the problem comes from the very expertise that made Keegan so qualified to write his books. Immersed as he was in the study of war, he became a victim of professional narcissism, and was apt to confuse the History of Warfare with the History of a Man in My Field Who Gets Quoted a Lot about Warfare. And after a lifetime of scholarship he was so laden with erudition that his ideas came avalanching down faster than he could organize them.

There is a big difference between a coherent passage of writing and a flaunting of one's erudition, a running journal of one's thoughts, or a published version of one's notes. A coherent text is a designed object: an ordered tree of sections within sections, crisscrossed by arcs that track topics, points, actors, and themes, and held together by connectors that tie one proposition to the next. Like other designed objects, it comes about not by accident but by drafting a blueprint, attending to details, and maintaining a sense of harmony and balance.