- a personal anecdote
- a historical anecdote
- an anecdote drawn from your research
- a description of a scene or artwork
- a dialog or conversation
- a surprising fact
- a direct admonition to the audience ("Consider this"; "Imagine that")
- a challenging question

If you do decide to start with an attention-grabbing hook, however, make sure it speaks to the content and purpose of your article or chapter.

- Instead of a hook, construct a funnel: an opening paragraph that draws in your reader with a compelling statement of the topic's importance and then narrows down to your main argument. Better yet, start with a hook that pulls your reader into the mouth of the funnel.

CHAPTER 8

THE STORY NET

A carefully woven opening paragraph will catch no readers if, on the very next page, you slacken the net and let all the fish go. Stylish writers know the importance of sustaining a compelling *story* rather than merely sprinkling isolated anecdotes throughout an otherwise sagging narrative. A book or article that supplies no suspense, no narrative arc, and no sense of moving from A to B will not hold the reader's attention nearly as effectively as an article plotted, even at the most subtle level, like a good thriller ("What will happen next?") or a mystery novel ("What clues will the intrepid researcher/detective unearth?") or a bildungsroman ("What lessons will the protagonist learn along the way, and from whom?").

Literary scholar Brian Boyd has argued that all artistic activity, including our love of storytelling, can be traced to deep-seated evolutionary impulses: since long before the dawn of literacy, human beings have used stories to attract attention, convey information, persuade doubters, solve problems, build communities, and make sense of the world.[1] Researchers vying for prestigious grants are often acutely aware that their success depends on their ability to tell a good story, and scholars in disciplines as diverse as anthropology, sociology, education, law, management, and medicine have advocated and theorized storytelling both as research methodology and professional practice.[2]

Yet relatively few scientists and social scientists have been trained in the art of crafting a compelling narrative, while humanities scholars who work in textually rich fields such as literature, history, or law often bury their own best stories under layers of abstraction and critical theory.

Every research project is made up of stories—the researcher's story, the research story, the stories of individual subjects and participants, the backstory—each of which contains various plot twists of its own. For stylish academic writers, then, the fundamental question to ask is not "Do I have a story to tell?" but "*Which* story or stories do I want to tell, and how can I tell them most effectively?" In fiction and drama, a story typically revolves around a protagonist who faces a problem or obstacle of some kind: a lost father, an indifferent beloved, an unsolved mystery, a ring that will cause unspeakable evil unless it is thrown into the heart of a fiery mountain. The researcher's story, likewise, always involves a character with a problem: that is, a scholar who poses a research question, collects evidence, forms a theory, and sets out to persuade the reader that this theory is correct. In the following examples, randomly selected from my data sample, the research question frames the researcher's (or researchers') story:

- Law/Criminology
  - *Research Question:* How does procedural justice influence public perceptions of the police in Australia?
  - *Researchers' Story:* The researchers analyze data from a large public survey in Australia, compare the results to similar data from the United States, and conclude that "people who believe police use procedural justice when they exercise their authority are more likely to view police as legitimate, and in turn are more satisfied with police services."
- Evolutionary Biology
  - *Research Question:* Why do birds migrate?
  - *Researchers' Story:* The research team reviews previous studies of bird migration, discusses their shortcomings, and

SPOTLIGHT ON STYLE

LORD ALFRED DENNING

It happened on 19th April 1964. It was bluebell time in Kent.

With these evocative words, British justice Lord Alfred Denning opened his famous legal judgment *Hinz v. Berry,* which upheld the award of substantial legal damages to a mother of nine whose husband had been killed during a family picnic by the driver of an out-of-control Jaguar. Lord Denning was a master storyteller who understood the importance of plot, character, and setting. Sometimes he focused on a protagonist's defining characteristics:

Old Peter Beswick was a coal merchant in Eccles, Lancashire. He had no business premises. All he had was a lorry, scales, and weights.

Sometimes he used literary devices such as assonance and alliteration to color his descriptions:

This is a case of a barmaid who was badly bitten by a big dog.

Sometimes he appealed, directly and shamelessly, to the audience's emotions:

In summertime village cricket is the delight of everyone. Nearly every village has its own cricket field where the young men play and the old men watch. In the village of Lintz in County Durham they have their own ground, where they have played these last 70 years. They tend it well. . . . Yet now after these 70 years a judge of the High Court has ordered that they must not play there any more. He has issued an injunction to stop them. He has done it at the instance of a newcomer who is no lover of cricket.

To critics who object to such blatant emotional manipulation, Denning would no doubt have replied that the law exists to regulate human behavior and that all human behavior involves emotion. To deny the power of story is to suppress our own humanity.

uses a new approach to test and refine "the evolutionary precursor hypothesis" developed by earlier researchers.

- Literary Studies
  - *Research Question:* How did the popularity of recorded sound devices such as the pianola and gramophone shape early twentieth-century poetry and poetics?
  - *Researcher's Story:* The researcher reads about the history of the pianola, trawls the literature of the period for references to recorded music, and constructs a series of persuasive close readings mediated by Schopenhauer's and Helmholtz's writings on the relationship between music and memory.

Some scholars turn the researcher's story into a central feature of their work, as when cultural historian Judith Pascoe structures an entire book around her quest for a single unrecoverable piece of knowledge: what did the famous eighteenth-century actress Sarah Siddons really sound like?[3] But even when the researcher's story does not feature directly in a scholarly book or article, there are many other academic venues where it may be told to good effect: for example, in a public lecture, a student seminar, a grant application, a book preface, or the opening chapter of a PhD thesis. Whether as a framing device or as a tale in its own right, the researcher's story can create a sympathetic bond between the author and the audience by showing the human side of academic endeavor.

The research story, on the other hand, is the story that the researcher uncovers, analyzes, or otherwise recounts but does not participate in directly. Embedded within both the researcher's story and the research story are the individual stories of research subjects and the backstory of the research. Academics can add drama and interest to the research story by panning to other stories from time to time. For instance, the criminologists could open their article with an anecdote about an innocent citizen unexpectedly caught up in a police search (an individual story that illustrates the relevance and immediacy of their research); the

biologists could give a brief account of previous scholarly debates about bird migration (the backstory of the research); and the literary scholar could single out a particular historical event, such as the late nineteenth-century craze for public piano bashing, and analyze its significance within the larger story of modernist cultural production (an individual story that also helps fill in the backstory).

Novelist E. M. Forster famously described a *story* as "a narrative of events arranged in their time sequence," whereas a *plot* "is also a narrative of events, the emphasis falling on causality"; thus, according to Forster, "The king died and then the queen died" is a story, whereas "The king died, and then the queen died *of grief*" is a plot. A story tells you what happened; a plot tells you why.[4] Like novelists, stylish academic writers transform stories into plots through careful attention to elements such as character, setting, point of view, and narrative sequence. In the researcher's story, the potential human characters include the researcher and all the other people he or she encounters along the way: research team members, skeptical colleagues, and previous researchers in the field whose theories are being built upon or overturned. In the research story, the main characters might be humans (for example, police), animals (for example, migratory birds), or even ideas (for example, modernist conceptions of memory). Historian of science Robert Root-Bernstein records numerous examples of famous scientists who have imagined themselves as animals, atoms, or other natural phenomena:

> With each animal I studied I *became* that animal. [Desmond Morris, ethology]
>
> What did the carbon atom *want* to do? [Peter Debye, chemistry]
>
> [I gained] a feeling of how I would behave if I were a certain alloy. [Cyril Stanley Smith, metallurgy]
>
> Instead of treating hydromagnetic equations I prefer to sit and ride on each electron and ion and try to imagine what the world is like from its point of view. [Hans Alfvin, physics]

SPOTLIGHT ON STYLE

SALLY BANES

When I lived in the SoHo area of New York City, working as a dance and performance art critic in the late 1970s and early 1980s, I was a frequent visitor to the Kitchen Center for Music, Video, and Dance. Recently, while in New York to dig through the Kitchen's archives in preparation for this article, I saw their production of Ann Carlson's *Night Light*. This site-specific performance was a social archaeology of a neighborhood in the form of an artful walking tour through the streets of the Chelsea area, between Greenwich Village and midtown, where the Kitchen has been located since 1985, punctuated by a series of frozen tableaux recreating historic photographs of Chelsea incidents. Afterwards, we all reconvened at the Kitchen to drink beer and chat with the tour guides and performers in the downstairs performance space.

Performance scholar Sally Banes imbues her academic writing with a dancer's physicality and a storyteller's sense of place. The evocative title of this article, "Choreographing Community: Dancing in the Kitchen," prepares us for its highly concrete opening paragraph, in which Banes manages to introduce the Kitchen Center in SoHo, describe her own project of "digging through" its archives, take us on a walking tour of the neighborhood, and finally bring us back to the Kitchen for a beer. By the time she moves on to abstract concepts such as the center's gradual transition from "a constituency of artists to a constituency of audiences," Banes has made us eager to hear the full story.

Elsewhere, in an article titled "Olfactory Performances," Banes involves our senses in a very different way, describing recent theatrical productions that incorporate the smell of cooking food:

bread, toast, bacon and eggs, hamburgers, soup, spaghetti sauce, omelettes, popcorn, onions, garlic, artichokes, mushrooms, panela (caramelized cane sugar), hazelnut cookies, risotto, jasmine-scented rice, fish and chips, curry, sausages, sauerkraut and kielbasa, kidneys, boiled beef, Cajun shrimp, and Australian barbequed meats of all kinds.

Hungry yet?

> I actually felt as if I were right down there and these [chromosomes] were my friends. [Barbara McClintock, cytogenetics][5]

Abstract concepts, likewise, can be conceptualized as characters in a drama, complete with romantic attractions and fatal flaws. What obstacles do they overcome? What transformations do they undergo?

Physical settings seldom figure explicitly in academic writing, especially in disciplines where researchers have been trained to regard their work as the revelation of timeless truths. Yet the stories we remember best are often set in distinctive physical landscapes, whether real or imagined: the fairy-tale castle, the woodcutter's cottage, the steep road through the mountain pass. The researcher's story and the research story offer many potential settings, from the laboratory where an important scientific experiment took place to the small island where a rare species of flightless bird evolved. Sometimes a few lines are all it takes to sketch a scene that will linger in the reader's mind:

> 1987. New Zealand. A warm, stuffy room in an old school building. A group of mathematics teachers have been working for a week discussing mathematics education for the indigenous Maori people. . . . They are trying to explain the difference between continuous and discrete data to a Maori elder. Examples are given: heights and shoe sizes; temperatures and football scores; time and money.[6]
>
> The day of dedication, 11 November 1934, was overcast. . . . The clouds parted as the wreath was laid. . . . This eerie and sudden appearance of a sunbeam exactly faithful to a time and place distilled the essence of centuries of inspired viewing within the cathedral observatories.[7]
>
> This trouble started when I began searching in earnest for a methodological framework that encouraged me to write richly of my experience. . . . I found autoethnography late one evening in the quiet of the university library.[8]

Each of these descriptions—by mathematics educator Bill Barton, historian John Heilbron, and academic developer Tai Peseta, respectively—includes evocative concrete details: the stuffy room, the sunbeam piercing the clouds, the quiet library where the researcher experiences an intellectual epiphany.

For writers of fiction, point of view is another essential consideration: through whose eyes do we watch the story unfold? A novel or short story might have a naïve first-person narrator whose innocence shapes our perceptions (as in Mark Twain's *Huckleberry Finn*); an omniscient, gently ironic narrator who sees into all the characters' minds (as in Charles Dickens's *Oliver Twist*); a narrator who tells us he is sane, but whose actions reveal him to be otherwise (as in Edgar Allan Poe's *The Telltale Heart*); a series of narrators who present radically different viewpoints (as in William Faulkner's *The Sound and the Fury*); or even an unreliable narrator who earns the reader's trust but turns out to be withholding crucial information (as in Agatha Christie's *The Murder of Roger Ackroyd*).[9] Academic writers often strive to convey a completely neutral perspective; as merchants of truth rather than fiction, we see it as our job to inform our readers, not to play with their expectations or their minds. Yet that neutrality, when examined closely, turns out to be something of a myth. All academics are partisans, after all, arguing for the validity of our theories, the accuracy of our data, and the strategic importance of our own narrow neck of the research woods. The question "Whose point of view am I *really* representing here?" can help us keep our biases in check. Other, related questions—"Whose point of view do I *want* to represent?" "What other points of view am I suppressing or neglecting?"—remind us that our own research stories will be enriched rather than weakened by the inclusion of dissenting voices.

Narrative structure, a consideration that operates within and around other structural elements such as chapters and sections, refers to the order in which a story gets told. In Forster's example

SPOTLIGHT ON STYLE

PETER CLOUGH

My problem with Molly is not that he lacks words, but rather that they can spill out of him with a wild, fairground pulse: they are sparklers, he waves them splashing around him. And my other problem with Molly's words is that many of them are not very nice; they are squibs that make you jump out of the way. For the moment I think that they are my only problems.

With "Molly," the story of a delinquent child and the teacher who tries in vain to save him, educator Peter Clough offers an emotionally wrenching case study that helps its readers understand how easily the product of a dysfunctional family can slip through the cracks of the British school system. The catch—one that will give many researchers pause—is that Molly is not a real boy. Both he and the narrator are composite fictional characters created by Clough to communicate the "deeper truths" of professional and personal experience. To "tell the truth as one sees it," Clough believes, sometimes "data may have to be manipulated to serve that larger purpose."

For some academics, Clough's defense of data manipulation is indefensible. His whole scholarly project, however, is "to rattle the bars which I see *any* given social science methods as throwing up around attempts to characterise experience." Clough's argument is twofold. First, he encourages researchers to tell stories that hold our attention, help us make sense of the world, and validate the "vitally constitutive role of language" in constructing knowledge. Second, he questions the supremacy of social science methodologies that suppress personal engagement: "Despite the sterility of the instruments, we never come innocent to a research task." Through the power of fiction, Clough explores "the ethnographer's dilemma—the conscious theft of glimpses of people's lives in the interests of research."

of a plot—"The king died, and then the queen died of grief"—the storyteller could start with the death of the king and move forward from there, or roll back the clock and begin with the backstory of the king and queen's early courtship, or open the story with the death of the queen and then unspool the narrative through flashbacks that eventually return us to the present moment. Likewise, in an academic article, we could begin with the research question (the researcher's story) or with a brief historical account of previous research (the backstory) or with an example of how this research has changed lives (an individual story within the larger research story). The trick is to decide which part of the story you want to toss your readers into first, and then guide them forward from there.

The art of academic storytelling is a complex business, yet it depends on a very simple principle: a good story makes people want to keep reading to find out what happens next. A skillful academic writer can construct a compelling narrative whose main "character" is an institution (How did the University of X respond to the government's new funding regime?), a methodology (Why are scattergrams more effective than bar graphs in conveying information about cosmic rays?), or a technique (What happens to the quality of undergraduate student essays in a class where peer assessment is introduced as a marking strategy?). However, such narratives become even more powerful and persuasive when they include individual stories about, for example, the *employees* at the University of X, the *researchers* who employ the methodology, or the *students* who wrote the essays. And let's not forget the readers' stories: the various interests, experiences, and biases that our audience brings to the party.

THINGS TO TRY

- Make a list of all the potential *characters* in your research story, including nonhuman characters such as theories and ideas. For each character, jot down:

  - a physical description (in the case of an intangible concept, try imagining how you would represent it as a cartoon character);
  - a personality profile (strengths, flaws, motivations);
  - an obstacle faced by the character;
  - a transformation that the character will undergo.

- Briefly describe the various *settings* in which your research story takes place, and experiment with ways of invoking those physical details in your writing. For example, you could:

  - include an evocative place name in your title;
  - use your opening paragraph to set a scene;
  - provide a description of the setting in an illustrative anecdote or case study.

- Play around with *point of view.* What would your research story sound like if it were told by one of your research subjects, or by a rival researcher who disagrees with your theoretical framework, or by a nonhuman character in your story, such as a molecule, a migrating bird, or a theoretical framework? Can you incorporate some or all of these perspectives into your writing?
- Draw a map or blueprint of your *narrative structure,* and then see if you can come up with at least three alternative ways to tell your story: for example, by starting at the end rather than the beginning, by presenting a series of different points of view, or by withholding crucial details until the final section.
- Just for fun, choose a favorite book or movie, distill its plot into a single sentence, and imagine what would happen if you plotted your research story along the same lines, for example:

  - A murder mystery: The researcher/detective searches for clues, follows a few red herrings, and eventually

applies his or her superior deductive powers to solve the mystery.

- *Hansel and Gretel:* The researcher's bold new theories get trapped in the cottage of an evil witch (a rival academic?) who wants to destroy them. However, they stage a crafty escape and emerge from the woods stronger and wiser than before.
- *Pride and Prejudice:* Two seemingly incompatible theoretical concepts are brought into a single conceptual space, where they dance, flirt, and argue passionately before eventually marrying and living happily ever after.
- *Rocky:* Against all odds, a scrappy, unproven methodology dukes it out against more-muscular opponents and eventually prevails, thanks to the unerring devotion of the faithful researcher.

Use insights gleaned from this exercise to breathe life into your own research story.

CHAPTER 9

SHOW AND TELL

"Show, don't tell" is the mantra of the novelist, dramatist, and poet. Creative writers learn to convey key emotional information by means of physical details: the storyteller invokes primal terror by spinning a tale about a child alone in a dark forest; the poet represents the whole history of human grief with "an empty doorway and a maple leaf."[1] "Show *and* tell," in contrast, is the mantra of the stylish academic writer, who illuminates abstract ideas by grounding theory in practice and by anchoring abstract concepts in the real world.

As a starting point, nearly all stylish academic writers ply their readers with well-chosen *examples*, *examples*, and more *examples*. For example, philosophers Glyn Humphreys and Jane Riddoch open a highly technical article on action and perception by posing a provocative opening question immediately followed by an illustrative case in point:

> What is an object? . . . Consider watching someone walk behind a set of railings, a circumstance in which all the parts of their body are not visible at a given time. The lay answer, that the object is the person behind the railing, fails to account for how we see the fragmented parts of the person as a single "thing." How does our visual system construct the whole object, when the sensory evidence for the object is fragmentary?[2]

Without the image of a person walking behind a railing firmly planted in our minds, the authors' subsequent discussion of "bottom-up grouping," "familiarity-based grouping," and other key principles of Gestalt psychology would be considerably harder to follow, and their central argument—that our perception of discrete objects "depends on the actions we are programming and on the presence of action relations between stimuli"—would be much more difficult to grasp.

Anecdotes are examples drawn from real life, as when psycholinguist Steven Pinker illustrates the ideological power of grammar with two historical vignettes:

> In *1984* George Orwell has the state banning irregular verbs as a sign of its determination to crush the human spirit; in 1989 the writer of a personal ad in the *New York Review of Books* asked, "Are you an irregular verb?" as a sign of her determination to exalt it.[3]

An anecdote is, in essence, a miniature story, sometimes sketched in a sentence or two, sometimes spun out over several paragraphs. Not only do anecdotes effectively illustrate abstract concepts, they also satisfy our natural desire for narratives that feature human beings rather than merely ideas. A carefully placed anecdote can revive a reader's flagging attention and even inject some welcome humor into an otherwise sober academic discussion.

Case studies, likewise, draw us into stories about real people; they show and tell how theoretical concepts get played out in the world at large. In professionally oriented disciplines such as business, medicine, and education, entire academic journals—the *Journal of Business Case Studies,* the *Journal of Medical Case Reports,* the *Journal of Education Case Studies*—are devoted to the practice and discussion of case-based research methodologies. Academics in other, more theoretically oriented disciplines use case studies in less-rigorous but equally fruitful ways, anchoring and exemplifying larger arguments through attention to real-life situations. Philosopher and feminist geographer Gillian Rose uses home-based interviews with fourteen middle-class English

SPOTLIGHT ON STYLE

MICHAEL CORBALLIS

A few years ago I visited a publishing house in England and was greeted at the door by the manager, whose first words were: "We have a bit of a crisis. Ribena is trickling down the chandelier." I had never heard this sentence before but knew at once what it meant, and was soon able to confirm that it was true. For those who don't know, ribena is a red fruit drink that some people inflict on their children, and my first sinister thought was that the substance dripping from the chandelier was blood. It turned out that the room above was a crèche [day care], and one of the children had evidently decided that it would be more fun to pour her drink onto the floor than into her mouth.

In his book *From Hand to Mouth: The Origins of Language,* psycholinguist Michael Corballis offers this perfectly pitched anecdote—apt, unusual, humorous, and concrete—to illustrate "that language is not just a matter of learning associations between words":

I had never in my life encountered the words ribena and chandelier in the same sentence, or even in the remotest association with each other, yet I was immediately able to understand a sentence linking them.

Weaving "a story about the evolution of language from threads drawn from a broad range of disciplines," Corballis deploys a wide range of stylish techniques. He opens every chapter with a relevant example, illustration, or question. He chooses his words with care: "I am beguiled by the frivolous thought that we are descended, not from apes, but from birds." Even his chapter titles are eye-catching, memorable, and concrete: "Why Are We Lopsided?"; "Three Hands Better than Two?"

mothers to explore the role of family photographs in defining domestic space; Pacific studies scholars David Gegeo and Karen Ann Watson-Gegeo examine a specific rural development project in the Solomon Islands to reveal "how modernization, globalization, and older Anglo-European notions of community development continue to fail rural development in the Solomons"; organizational management experts Jeffrey Pfeffer and Tanya Menon analyze the disproportionately high "knowledge valuation" assigned to external business consultants by tracing the consultancy experiences of two different companies.[4] Through detailed analysis of specific situations, these authors make large, transferable claims about cultural identity formation, postcolonial rural development, and organizational knowledge, respectively.

A *scenario* functions very much like a case study, except that it depicts a fictional situation rather than a real one. Sometimes scenarios skate along the edge of satire, as when, in an article titled "Embodiment, Academics, and the Audit Culture," sports scientist Andrew Sparkes tells the funny but not so funny story of a "mythical (perhaps?) academic at an imaginary (perhaps?) university in England that is permeated by an audit culture." In the article's introduction, Sparkes explains that he based the "embodied struggles" of his tortured professor on "informal interviews with academics at various universities in England and selected personal experiences."[5] More realistic scenarios might explore the possible outcomes of an expected or likely sequence of events, such as global warming or nuclear war. (In some disciplines, such as climatology, *scenario* is in fact a technical term for computer-generated "what if" models.) The most effective scenarios, by and large, function much in the same way as anecdotes, examples, and case studies: they make abstract ideas concrete and imaginable. However, a scenario can invite ridicule if it proves too unlikely or outlandish, as when philosophers concerned with the ethics of abortion write about "hypothetical women impregnated by flying insects and the like," or when a theoretical physicist opens a report on how to increase a farmer's

SPOTLIGHT ON STYLE

BRIAN BOYD

In a game that asked us to associate natural kinds and famous people, "butterflies" would yield the answer "Nabokov" as surely as "hemlock" would trigger "Socrates." . . . After all, Humbert pursued nymphets, not Nymphalids, Luzhin captured chessmen, not Checkerspots, Pnin accumulated sorrows, not Sulphurs. Why did butterflies so fascinate Nabokov, and why should that so fascinate us?

In his introduction to *Nabokov's Butterflies: Unpublished and Uncollected Writings,* literary biographer Brian Boyd begins with a quotation from Nabokov—"My pleasures are the most intense known to man: writing and butterfly hunting"—to justify his own appropriation of butterflies as an extended metaphor for Nabokov's gorgeous, fluttering prose:

Let me pin Vladimir Nabokov into place alongside several superficially similar specimens.

From this point on, literature and Lepidoptera dance an elaborate pas de deux through seventy years of Nabokov's life.

Whenever a butterfly or moth plucked from its natural habitat in a particular novel demands attention, identification, and explanation, the anthologist's net suddenly becomes the reader's lens.

Boyd notes that "from as far back as we can see, Nabokov had a love of both detail and design, of precise, unpredictable particulars and intricate, often concealed patterns." One might say the same of Boyd, whose carefully constructed displays match Nabokov's in their stylistic virtuosity. In addition to metaphor, Boyd deploys alliteration and wordplay ("nymphets, not Nymphalids"; "chessmen, not Checkerspots"), active verbs *(yield, trigger, pursue, capture, accumulate, fascinate, pin, dance, pluck)*, and concrete details (butterfly names, literary characters, specimen boards, nets, lenses, ballet steps) to communicate the vibrancy and variety of Nabokov's prose.

milk production with the words "Consider a spherical cow in a vacuum."[6]

Figurative devices such as *simile, metaphor,* and *personification* show and tell in a different way, weaving memorable imagery into the very fabric of a writer's sentences. Some academics, particularly scientists and social scientists, regard figurative language with suspicion, associating metaphor and its cousins with the flowery, emotive outpourings of the novelist or poet. Yet scientists frequently invoke physical metaphors—Petri nets (computer science), DNA bar codes (molecular biology), step-down therapy (medicine)—to explain the work they do. Indeed, philosophers of language George Lakoff and Mark Johnson have argued that *all* language is deeply metaphorical; the language of embodied experience, they claim, is (metaphorically) hardwired into our very brains.[7]

Stylish academic writers choose their metaphors carefully, harnessing the physical world in the service of abstract ideas, as when literary theorist Peter Brooks and psychologist Robert J. Sternberg ascribe physical qualities to *argument* and *intimacy,* respectively:

> The plot of my own argument in this study will make loops and detours in the pursuit of its subject.[8]
>
> The swinging back and forth of the intimacy pendulum provides some of the excitement that keeps many relationships alive.[9]

Sometimes, however, academic writers let their metaphors choose them:

> In this chapter I have tracked rhetorical paths of thought to illustrate some ways rhetorical hermeneutics works as theory and as critical practice. Following these paths reveals how interpretations of phronesis have historically tied rhetoric and hermeneutics together.[10]

Here, literary theorist Steven Mailloux's ambition to "track rhetorical paths of thought" is derailed by conflicting metaphors—

illustrate, tie together, tool—that get in the way of his dominant "tracking" image. A writer more attentive to the workings of figurative language would stick to the *path* alone.

When an author strings several related comparisons together—"as A is like B, so C is like D"—we move into the realm of *analogy,* or extended metaphor. Scientists frequently use analogies to explain the workings of nature and the unseen world. In 1940, for example, biologist H. B. Cott noted that interdependent species engage in mutually escalating evolutionary behaviors:

> The fact is, that in the primeval struggle of the jungle, as in the refinements of civilized warfare, we see in progress a great evolutionary armament race. . . . Just as greater speed in the pursued has developed in relation to increased speed in the pursuer; or defensive armour in relation to aggressive weapons; so the perfection of concealing devices has evolved in response to increased powers of perception.[11]

Cott's "evolutionary arms race" analogy—animal species are like nations at war, heightened perception is like a weapon, camouflaging devices are like defensive armor—has been taken up and elaborated upon by numerous other scientists, including biologist Leigh Van Valen, who in 1972 coined the phrase "Red Queen's hypothesis" to explain how evolutionary systems maintain their fitness relative to other codeveloping systems. Van Valen's theory takes its name from the scene in Lewis Carroll's *Through the Looking Glass* where the Red Queen tells Alice that she must run faster and faster just to stay in the same square of the chessboard: "It takes all the running you can do, to keep in the same place."[12] Both Cott's evolutionary arms race and Van Valen's Red Queen's hypothesis belong to a long list of analogies that scientists and scholars have drawn upon to help us make sense of our world. Computer programmers "boot" their hard drives (the term derives from the phrase "pulling yourself up by your bootstraps"), linguists who study metaphor and analogy speak

of "conceptual mappings," and educators construct pedagogical "scaffolding" to help their students learn. Sometimes such analogies can be misleading; for example, so-called "junk DNA," which denotes noncoding portions of a genome sequence, has turned out to have more important biological functions than its throwaway name would suggest.[13] Many scientific analogies, however, are so effective and compelling that they have entered our cultural lexicon and perhaps our very consciousness. The programmer who first slapped familiar office labels onto various computer functions—"desktop," "file," "folder," "control panel," "recycle bin"—certainly knew something about human psychology and our hunger for language that invokes physical reality.

Van Valen's Red Queen analogy is also an *allusion,* a device used by stylish authors such as anthropologist Ruth Behar and literary scholar Marjorie Garber to link abstract concepts with stories and images already familiar to most readers:

> To write vulnerably is to open a *Pandora's box.* Who can say what will come flying out?[14]
>
> Assistant professors are shown this forking path: You cannot get there from here. Write a solid, scholarly book for specialists in your field; otherwise you will step off the *yellow brick road* to tenure.[15]

We know that Pandora's box contains unknown dangers and that the yellow brick road leads to a place of Technicolor happiness—unless, of course, we are unfamiliar with Greek mythology and *The Wizard of Oz,* in which case the allusions fall flat. (Garber's passage also contains a veiled allusion to Jorge Luis Borges's short story "The Garden of the Forking Paths.") A careful stylist will either provide an explicit reference to the source being cited (as Van Valen does with his Red Queen's hypothesis) or, as in the two examples above, he or she will ensure that a sentence still makes sense even if a reader does not "get" the allusion.

SPOTLIGHT ON STYLE

STEVEN PINKER

This book tries to illuminate the nature of language and mind by choosing a single phenomenon and examining it from every angle imaginable. That phenomenon is regular and irregular verbs, the bane of every language student. At first glance that approach might seem to lie in the great academic tradition of knowing more and more about less and less until you know everything about nothing. But please don't put the book down just yet. Seeing the world in a grain of sand is often the way of science, as when geneticists agreed to study the lowly fruit fly so that their findings might cumulate into a deep understanding that would have been impossible had each scientist started from scratch with a different organism. Like fruit flies, regular and irregular verbs are small and easy to breed.

Psycholinguist Steven Pinker opens his book *Words and Rules: The Ingredients of Language* with a concrete, easy-to-grasp explanation of his methodology: he seeks to "illuminate the nature of language and mind" (a lofty ambition indeed) by focusing on a single grammatical exemplar, the irregular verb. His opening passage draws on just about every technique in the stylish writer's tool kit:

- a clearly stated thesis ("This book tries to illuminate")
- vivid verbs *(illuminate, choose, examine, cumulate, breed)*
- colorful nouns and adjectives *(bane, from scratch, lowly)*
- direct conversation with the reader ("But please")
- self-deprecating humor ("the great academic tradition of knowing more and more about less and less")
- literary allusions ("To see the world in a grain of sand"—William Blake)
- metaphor and analogy ("Like fruit flies, regular and irregular verbs are small and easy to breed")

Even Pinker's chapter titles—"Broken Telephone," "The Horrors of the German Language," "A Digital Mind in an Analog World"—are by turn concrete, humorous, allusive, and thought-provoking. Nearly every paragraph of his book contains examples, illustrations, or other manifestations of the "show and tell" principle at work.

Examples, metaphors, and allusions work their magic by painting pictures in our minds: we can practically see those hapless young assistant professors setting out merrily along the yellow brick road to tenure, still unaware of the hazards (lions and tigers and bears!) that lurk in the bushes along the way. *Visual illustrations*, by contrast—photos, drawings, diagrams, graphs—literally show us in images what the author tells in words. As neuropsychologist Allan Paivio and others have documented, words and images are processed by the brain along entirely separate pathways; unsurprisingly, readers understand new concepts more clearly and recall them more readily when they are presented both verbally and visually rather than just one way or the other.[16] The most effective illustrations, by and large, are those that complement rather than duplicate the text: a well-chosen diagram, graph, or screen shot speaks mostly for itself without requiring a long-winded explanation. At the same time, authors do no one a favor by dropping in illustrations that never get mentioned in the text. Nor do confusing or badly constructed graphics serve the stylish academic writer's cause. Convoluted flow charts and snazzy 3-D bar graphs can end up alienating rather than enlightening readers, who expect illustrations to forge an uncluttered path to the ideas and data presented in the text, not to throw up new roadblocks (see Figure 9.1).

The "show and tell" principle can be adapted to suit any academic context or disciplinary style. At the sentence level, a single concrete verb—*sweep, illuminate, forge*—helps lift a phrase into the realm of lived experience. Metaphors and analogies produce a similar effect, but more explicitly and on a more expansive scale. Anecdotes, case studies, and scenarios add narrative energy and human interest. Visual illustrations activate the eyes as well as the mind. Each of these techniques relies on a breathtakingly simple formula: abstract concepts become more memorable and accessible the moment we ground them in the material world, the world that our readers can see and touch.

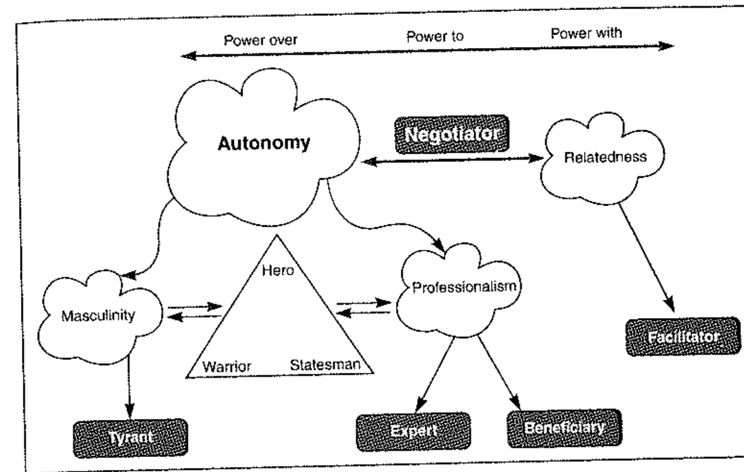

Figure 9.1. Example of a higher education diagram that risks confusing rather than enlightening readers with its various labels, arrows, and clouds. The caption to the original diagram reads, "Leadership discourses, subject positions, and corresponding modalities of power."

THINGS TO TRY

- *Examples:* For every sentence that you write about an abstract concept or principle, follow up with the words "For example . . ." This technique can lead to stylistic monotony if overused; however, if you are stuck for ideas, it is a good way to get you started thinking concretely. (Rule of thumb: Use the phrase "for example" no more than once per paragraph or, better yet, once per page. Cultivate other, more subtle ways to introduce examples.)
- *Anecdotes:* Start a file of anecdotes—ministories no more than a few sentences or paragraphs long—that relate to your research area. Weave them into your research writing at key points, whether to assist your readers' understanding or simply to regain their attention. If you don't know

where to start, try using an anecdote as your opening hook.

- *Case Studies:* If your research involves human subjects, consider framing it as a case study: that is, an exemplary story (see Chapter 8, "The Story Net," for further examples and ideas).
- *Scenarios:* A scenario presents a hypothetical situation and explores its possible outcomes. As a prompt, start by addressing your reader directly with an imperative verb such as *imagine, picture,* or *suppose.* You can later remove this direct address and present the scenario on its own.
- *Figurative Language:* Stylish writers employ similes, metaphors, analogies, and other figurative language to capture their readers' attention, aid their understanding, appeal to their physical senses, and generate new ideas. If figurative language doesn't come naturally to you, try the following steps:
    - Choose a bland, abstract sentence from your book, thesis, or article. (Example: "Speech errors occur frequently in human conversation, but the many different varieties of errors have not yet been adequately analyzed and categorized by scholars.")
    - Identify the subject of the sentence and come up with some concrete similes. ("Speech errors are like: sprouting weeds, lost children, swarming insects.")
    - Choose one of those similes and expand it into an analogy. ("If speech errors are like swarming insects, then the people who study them are like entomologists, and the act of studying them is like catching and classifying insects.")
    - Get playful with the analogy: push its limits, explore its shadow side. ("If speech errors are like swarming insects, studying them is like intentionally walking into a cloud of mosquitoes. If linguists are like entomologists, classifying speech errors is like dipping butterflies in formaldehyde and pinning them to a board.")

    - Now work the analogy into your original sentence, as linguists Douglas Hofstadter and David Moser do when they invoke the "speech errors are like insects" analogy in a statement about error making and human cognition: "Speech errors of all kinds swarm in our linguistic environment like hordes of variegated insects waiting to be caught, labeled, and categorized."[17]
    - Finally, try out your metaphorically enriched writing on a few colleagues—the conservative ones as well as those who are stylistically adventurous. Do they like it? Do you?

- *Visual illustrations* can be inviting, distracting, confusing, or illuminating, depending on how they are used. As with any other aspect of stylish writing, the key principle is to employ them self-consciously and with a clear sense of purpose:
    - For each illustration you include, ask yourself, "Why do I need this image? How does it aid the reader's understanding? Does my illustration supplement rather than duplicate what is already in the text?"
    - Because images are relatively expensive to print but easy to reproduce digitally, add colorful illustrations to Web-based publications and live presentations (subject to copyright provisions, of course) but use them sparingly in print.