THE *Literary* Mind

MARK TURNER

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PREFACE

IF YOU ARE BROWSING this paragraph in a bookstore, glance at the people around you. They are thinking, searching, planning, deciding, watching the clock, walking to the register, buying books, talking to friends, and wondering why you are looking at them. None of this seems literary.

But to do these things, they (and you) are using principles of mind we mistakenly classify as "literary"—*story*, *projection*, and *parable*. We notice these principles so rarely in operation, when a literary style puts them on display, that we think of them as special and separate from everyday life. On the contrary, they make everyday life possible. The literary mind is not a separate kind of mind. It is our mind. The literary mind is the fundamental mind. Although cognitive science is associated with mechanical technologies like robots and computer instruments that seem unliterary, the central issues for cognitive science are in fact the issues of the literary mind.

Story is a basic principle of mind. Most of our experience, our knowledge, and our thinking is organized as stories. The mental scope of story is magnified by *projection*—one story helps us make sense of another. The projection of one story onto another is *parable*, a basic cognitive principle that shows up everywhere, from simple actions like telling time to complex literary creations like Proust's *À la recherche du temps perdu*.

We interpret every level of our experience by means of parable. In this book, I investigate the mechanisms of parable. I explore technical details of the brain sciences and the mind sciences that cast light on our use of parable as we think, invent, plan, decide, reason, imagine, and persuade. I analyze the activity of parable, inquire into its origin, speculate about its biological and developmental bases, and demonstrate its range. In the final chapter, I explore the possibility that language is not the source of parable but instead its complex product.

Parable is the root of the human mind—of thinking, knowing, acting, creating, and plausibly even of speaking. But the common view, firmly in place for

two and a half millennia, sees the everyday mind as unliterary and the literary mind as optional. This book is an attempt to show how wrong the common view is and to replace it with a view of the mind that is more scientific, more accurate, more inclusive, and more interesting, a view that no longer misrepresents everyday thought and action as divorced from the literary mind.

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November 1995

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THE LITERARY MIND

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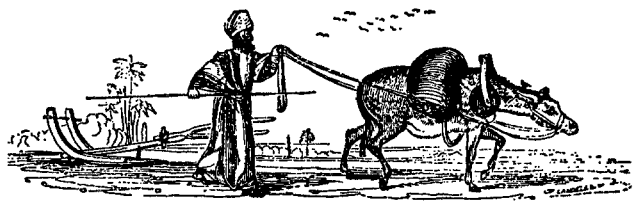
BEDTIME WITH SHAHRAZAD



THERE WAS ONCE a wealthy farmer who owned many herds of cattle. He knew the languages of beasts and birds. In one of his stalls he kept an ox and a donkey. At the end of each day, the ox came to the place where the donkey was tied and found it well swept and watered; the manger filled with sifted straw and well-winnowed barley; and the donkey lying at his ease, for the master seldom rode him.

It chanced that one day the farmer heard the ox say to the donkey: "How fortunate you are! I am worn out with toil, while you rest here in comfort. You eat well-sifted barley and lack nothing. It is only occasionally that your master rides you. As for me, my life is perpetual drudgery at the plough and the millstone."

The donkey answered: "When you go out into the field and the yoke is placed upon your neck, pretend to be ill and drop down on your belly. Do not rise even if they beat you; or if you do rise, lie down again. When they take you back and place the fodder before you, do not eat it. Abstain for a day or two; and thus shall you find a rest from toil."

Remember that the farmer was there and heard what passed between them.

And so when the ploughman came to the ox with his fodder, he ate scarcely any of it. And when the ploughman came the following morning to take him out into the field, the ox appeared to be far from well. Then the farmer said to the ploughman: "Take the donkey and use him at the plough all day!"

With this story, the vizier, counselor to the great Sassanid king, Shahriyar, begins to advise his daughter. The vizier's daughter is Shahrazad, known to us

as the gifted and erotic storyteller of the thousand and one nights, whose genius and beauty will make her famous. But at the moment, she has told no tales. She has not offered herself to Shahriyar as a wife or given him any of the multiple pleasures of her bed. She is merely the vizier's daughter, and her father would like to keep it that way. For the last three years, it has been his grim daily task to execute Shahriyar's queen of the day before and procure for him another virgin.

The trouble began when Shahriyar discovered that his first wife was unfaithful. In sorrow, he abandoned his throne to roam the world. He unwillingly became involved in a distasteful episode that convinced him that no woman can be trusted. He returned to his kingdom, ordered his wife to be slain, and redefined "married life."

The situation in the kingdom is very bad; rebellion is simmering, and the vizier is running out of virgins. Shahrazad offers herself as the next bride, but not as the next victim. She is far too well bred ever to place her father in the awkward position of having to execute his own child. Instead, she will marry King Shahriyar and by telling him marvelous stories free him of the need to behead each morning the woman he had taken as his virgin bride the preceding afternoon. Her hope is to begin once again the daily royal wedding tale, but this time to replace its local, twisted finish with the more common and traditional ending.

Her image of her wedding night is unusual, in keeping with her circumstances: After sex with the king, she will begin a story, supposedly for her younger sister Dinarzad, but really meant for the king's ears. She will time its climax to be interrupted by the breaking of dawn so that the king, to hear the rest of the story, will have to postpone her execution by a day. She hopes to repeat this trick for as many days as it takes. Some of her stories will be veiled parables. Some will carry King Shahriyar beyond his bleak interior landscape. Some will be symbols of what could be. All will have an amazing and wonderful surface.

The vizier fears that his daughter will merely suffer. True to his character and to his role, he does not say so directly, but instead tells her a story of a donkey who, proud of his intelligence, schemes to trick the master of the farm into excusing the sweet, simple ox from labor. The scheme works, but not as the donkey expected. The wealthy farmer orders the donkey driven into the field to work in the ox's place.

In using a story to warn Shahrazad, the vizier engages in narrative imagining, a form of thinking before acting. In trying to change her mind through story, he unwittingly endorses the very strategy he asks her to reject—to try to change the king's mind through stories.

Narrative imagining—story—is the fundamental instrument of thought. Rational capacities depend upon it. It is our chief means of looking into the

future, of predicting, of planning, and of explaining. It is a literary capacity indispensable to human cognition generally. This is the first way in which the mind is essentially literary.

The vizier asks Shahrazad to think before acting by imagining a story and then evaluating it. He traces the consequence of her action forward to disaster, implying that Shahrazad should abandon her plan. In doing so, he puts to domestic use a fundamental cognitive activity: story.

But there is something odd here. The vizier does not say, "Look, daughter, this is your current situation: You are comfortable, so comfortable that you have the leisure to get interested in other people's problems. But if you keep this up, you will end in pain." Instead, he says, "Once upon a time there was a comfortable donkey who got interested in the problems of the ox. The donkey, who thought he was the sharpest thing ever, gave some clever advice to the dullard ox. It worked amazingly well, at least for the ox, but it had unfortunate consequences for the donkey. Before you know it, the ox was lolling about in the hay of contentment while the donkey was sweating and groaning at the ox's labor."

The vizier presents one story that projects to another story whose principal character is Shahrazad. We, and Shahrazad, are to understand the possible future story of Shahrazad by projecting onto it the story of the ox and the donkey. The punch line is that Shahrazad is the donkey. This projection of one story onto another may seem exotic and literary, and it is—but it is also, like story, a fundamental instrument of the mind. Rational capacities depend upon it. It is a literary capacity indispensable to human cognition generally. This is the second way in which the human mind is essentially literary.

One special kind of literature, parable, conveniently combines story and projection. Parable serves as a laboratory where great things are condensed in a small space. To understand parable is to understand root capacities of the everyday mind, and conversely.

Parable begins with narrative imagining—the understanding of a complex of objects, events, and actors as organized by our knowledge of *story*. It then combines story with projection: one story is projected onto another. The essence of parable is its intricate combining of two of our basic forms of knowledge—story and projection. This classic combination produces one of our keenest mental processes for constructing meaning. The evolution of the genre of parable is thus neither accidental nor exclusively literary: it follows inevitably from the nature of our conceptual systems. The motivations for parable are as strong as the motivations for color vision or sentence structure or the ability to hit a distant object with a stone.

Literary parables are only one artifact of the mental process of parable. Proverbs frequently present a condensed, implicit story to be interpreted through

projection: "When the cat's away, the mice will play," "Once burned, twice shy," "A poor workman blames his tools," "Don't get between a dog and his bone." In cases like these, the target story—the story we are to understand—is not even mentioned overtly, but through our agile capacity to use both story and projection, we project the overt source story onto a covert target story. "When the cat's away, the mice will play," said at the office, can be projected onto a story of boss and workers. Said in the classroom, it can be projected onto a story of teacher and students. Said of sexual relationships, it can be projected onto a story of infidelity. With equal ease, we can project it onto stories of a congressional oversight committee and the industries regulated by that committee, a police force and the local thieves, or a computer security device and the computer viruses it was intended to control. If we find "When the cat's away, the mice will play" out of context, in a book of proverbs or in a fortune cookie, we can project it onto an abstract story that might cover a great range of specific target stories and muse over the possible targets to which it might apply. "Look before you leap" similarly suggests an abstract story that applies to indefinitely many target stories.

The ease with which we interpret statements and construct meanings in this fashion is absolutely misleading: we feel as if we are doing no work at all. It is like listening to a speaker of English utter scores of syllables a minute: We use complicated unconscious knowledge to understand the speech but feel as if we are passive, as if we merely listen while the understanding happens by magic. With parables and proverbs, just as with language itself, we must see past our apparent ease of understanding if we are to locate the intricate unconscious work involved in arriving at these interpretations.

To study mind, we must become comfortable with the fact that mind generally does not work the way it appears to. This sound paradoxical. We expect our introspective sense of mind to serve as a reasonable guide to the actual nature of mind. We expect it to give us a loose picture that, once enhanced by science, will represent the workings of mind. But it is instead badly deceptive. Our loose picture of mind is a loose fantasy. Consciousness is a wonderful instrument for helping us to focus, to make certain kinds of decisions and discriminations, and to create certain kinds of memories, but it is a liar about mind. It shamelessly represents itself as comprehensive and all-governing, when in fact the real work is often done elsewhere, in ways too fast and too smart and too effective for slow, stupid, unreliable consciousness to do more than glimpse, dream of, and envy.

Fables like Aesop's, cautionary tales like the vizier's to his daughter Shahrazad, veiled indictments like the one the prophet Nathan delivers to King David in 2 Samuel 12:1-7 ("You are the man"), epithets like "wing-footed Hermes," conceits in metaphysical poetry, and extended allegories like *Everyman* or *Pilgrim's Progress* or the *Divine Comedy* all consist of the combination of story

and projection. Even stories exceptionally specific in their setting, character, and dialogue submit to projection. Often a short story will contain no overt mark that it stands for anything but what it purports to represent, and yet we will interpret it as projecting to a much larger abstract narrative, one that applies to our own specific lives, however far our lives are removed from the detail of the story. Such an emblematic story, however unyieldingly specific in its references, can seem pregnant with general meaning.

The projection of story operates throughout everyday life and throughout the most elite and sacred literature. Literary critics, observing it at work in exceptional literary inventions such as the *Faerie Queene* or *The Rime of the Ancient Mariner* or *Through the Looking Glass* or *The Wasteland*, have from time to time proposed that these spectacular inventions are not essentially exotic, but rather represent the carefully worked products of a fundamental mode of thought that is universal and indispensable. Parable—defined by the *Oxford English Dictionary* as the expression of one story through another—has seemed to literary critics to belong not merely to expression and not exclusively to literature, but rather, as C. S. Lewis observed in 1936, *to mind in general.* If we want to study the everyday mind, we can begin by turning to the literary mind exactly because the everyday mind is essentially literary.

Parable is today understood as a certain kind of exotic and inventive literary story, a subcategory within the special worlds of fiction. The original Greek word—παραβολή (*parabole*), from the verb παραβάλλειν (*paraballein*)—had a much wider, schematic meaning: the tossing or projecting of one thing alongside another. The Greek word could be used of placing one thing against another, staking one thing to another, even tossing fodder beside a horse, tossing dice alongside each other, or turning one's eyes to the side. In these meanings, παραβάλλειν is the equivalent of Latin *projicere*, from which we get the English "to project" and "projection."

I will use the word *parable* more narrowly than its Greek root but much more widely than the common English term: *Parable is the projection of story.* Parable, defined this way, refers to a general and indispensable instrument of everyday thought that shows up everywhere, from telling time to reading Proust. I use the word *parable* in this unconventional way to draw attention to a misconception I hope to correct, that the everyday mind has little to do with literature. Although literary texts may be special, the instruments of thought used to invent and interpret them are basic to everyday thought. Written works called narratives or stories may be shelved in a special section of the bookstore, but the mental instrument I call narrative or story is basic to human thinking. Literary works known as parables may reside within fiction, but the mental instrument I call parable has the widest utility in the everyday mind.

We can learn a surprising amount about story, projection, and parable in everyday life by considering for a moment the fictional lives of the fictional vizier and Shahrazad. The vizier is in a terrible position, on the edge of dealing with his daughter's life or death, the complex mind of his king, and the fate of his country. He is called on to foresee, a basic human mental activity, and he is supposedly the national master at foresight. He is the vizier. He has had unparalleled experience in crucial foresight when there is no second chance. He is fully exposed in his roles as both father and adviser. A failure at this moment will destroy absolutely everything. He turns, naturally, to the most powerful and basic instruments he possesses: story and projection. His motivation is absolute, since he knows that to succeed at her scheme, Shahrazad will have to outperform him at his own professional practice her first time out, under conditions more unfamiliar and dramatic than anything that has accompanied his own feats of forethought and persuasion. Yet the contest is unequal: She is a rank novice while he is the reigning grand master.

Shahrazad sees everything at stake, too, but from a different viewpoint: It is her country, her king, her father, her sisters (literally and figuratively), and sooner or later, no doubt, her own virginity and life, whether she volunteers them or not. It is also, potentially, in narrative imagination, her marriage, her children, her future, her genius, her life story. A failure will destroy absolutely everything. She too turns naturally to the most powerful and basic instruments she possesses: story and projection. These are the powers of mind she will live by, not only in the drama of her execution or reprieve, but also in the minute details of her storytelling nights.

It is a recurrent tale: The cautious parent sees all the danger while the adventurous child sees all the opportunity. They stand in conflict at just that moment in their lives when the parent's power is ebbing and the child's capacity is rising. The child, of course, will have her way. Her father must step back into the condition of hope. Shahrazad has always been in his hands. Now he will be in hers. In this story, repeated in every generation, the child is confident and ambivalently thrilled at the prospect of having her capacity put to the test in action, to see whether she can succeed where her parent has failed, while the parent is nearly overcome with fear yet sustained by the secret thought that if anyone can do it, it's his kid.

I imagine Shahrazad at this moment as prescient, knowing just how good she is and just what powers and opportunities she possesses that are beyond her father's capacity to imagine. Her presentiment comes from her own use of foresight through narrative imagining. But not even she, for all her looking into the future, can know that her performance during the next thousand and one nights will bring her a reputation as the greatest literary mind ever. Along with that

other fictional author, the Homer of the *Odyssey*, she will become a paragon of human imaginative superiority.

If Shahrazad and the vizier could know of her fame down to our age, it would probably mean less to them than would its implication that her daring idea succeeds, which further implies that tomorrow morning her head will not fall beneath her father's sword. She will live, not happily ever after—this is an adult story—but for the appropriate temporal space of risk and terror, intimacy and pleasure, until she and Shahriyar are visited by the Destroyer of all earthly pleasures, the Leveler of kings and peasants, the Annihilator of women and men.

The story of Shahrazad presents to us in miniature the mental patterns of parable:

Prediction. The vizier imagines the consequences of an event, namely the story that follows the donkey's intrusion into the affairs of the ox and the farmer. By projection, he is at the same time imagining the story that would follow Shahrazad's proposed intrusion into the affairs of the virgins and Shahriyar. Narrative imagining is prediction.

Evaluation. If the event whose consequences we imagine is an intentional act, we can evaluate the wisdom of that act by evaluating those consequences. The vizier not only predicts the consequences of Shahrazad's proposed intrusion, he thereby evaluates its wisdom. Narrative imagining is evaluation.

Planning. Shahrazad imagines a goal: to stop Shahriyar. She intends to "succeed in saving the people or perish and die like the rest." It so happens that she has a second goal: to establish a sound marriage with King Shahriyar. It is convenient that achieving the second goal automatically achieves the first. She constructs in imagination a narrative path of action that leads from the present situation to the sound marriage. This story is her plan. Narrative imagining is planning.

Explanation. We often need to explain how something "came about." We appear to do this by constructing a narrative path from a prior understood state to the state we need to explain. Shahrazad's plan to change Shahriyar depends upon a prior explanation, of how Shahriyar the happily married king became Shahriyar the destroyer of women. This explanation consists of the narrative that starts with Shahriyar the happily married king and ends with Shahriyar the destroyer of women. Narrative imagining is explanation.

Objects and events. We recognize small stories as involving objects and events. This raises a problem: The world does not come to us with category labels—"This is an object," "This is an event." How do we form conceptual categories of objects and events?

Actors. We recognize certain objects in stories as actors. This raises another problem: The world does not come labeled with little category signs that say "This is an actor." How do we form conceptual categories of actors?

Stories. We recognize stories as complex dynamic integrations of objects, actors, and events. But again, we do not recognize each story as wholly unique. Instead, we know abstract stories that apply to ranges of specific situations. How do we form conceptual categories of stories?

Projection. The tale of the ox and the donkey, in which the donkey helps the ox but then suffers in the ox's place, is offered as a source tale to be projected onto the story of what will happen should Shahrazad be foolish enough to try to help the suffering virgins. The power of this projection is obvious, but how it works is a mystery. How do we project one story onto another? What is the cognitive mechanism of parable?

Metonymy. In the tale of the ox and the donkey, the sifted straw is metonymic for luxury—that is, it stands for luxury—and the plough and the millstone are metonymic for labor and suffering. We know this without conscious evaluation. We know, for example, not to take the sifted straw as metonymic for yellow things, or the plough and millstone as metonymic for man-made artifacts. This seems obvious and even automatic, but how we make metonymic associations is mysterious.

Emblem. The vizier and his daughter stand as emblems or instances of parent and child; their conflict stands as an emblem or instance of generational conflict. What is an emblematic narrative?

Image schemas. When we think of one thing, for example, the donkey's pride and nosiness, as "leading to" another, such as his suffering, we are thinking image-schematically. This particular image schema—"leading to"—is basic to story. It consists of movement along a directed path. The points on the path correspond to stages of the story: We say, "What point have we reached in the story?" The "path" of the story "leads from" its "beginning" "to" its "end." What are image schemas and what are their roles in the literary mind?

Counterparts in imaginative domains. The vizier, in warning his daughter, has a mental model of the present. He imaginatively blends it with a hypothetical scenario in which Shahrazad goes to Shahriyar. Mentally, he develops that blend into a robust picture of a hypothetical future. These two narrative mental spaces, of the vizier's present reality and the hypothetical future, are separated in time and in potential. But there are conceptual connections between them as well as differences. In the mental space of the present, the role of vizier's elder daughter and the role of Shahriyar's wife do not have the same inhabitant. But in the mental space of the hypothetical future, they do, which is to say, the vizier is imagining a future in which the person who happens to inhabit the role of vizier's elder

daughter also happens to inhabit the role of Shahriyar's (temporary) wife. The vizier, expressing these connections, could say, "If you marry Shahriyar, I will have to kill you," and we would know that the cause of the killing would not be his anger at his daughter for having disobeyed him but instead his obligation as vizier to execute whoever inhabits the role of Shahriyar's wife. We understand these mental space connections as well as the vizier, instantly, despite their complexity. If Shahrazad were to say, "If I marry Shahriyar, you will be surprised; you will be grandfather to the next king," we as well as the vizier would know immediately the connections between Shahrazad's mental space of the present and her mental space of the future. Constructing these mental space connections is amazingly literary and complicated. Shahrazad's mental space of the future, for example, includes a father who remembers his previous mental space of the future and who knows that it does not accord with his mental space of the present reality in the way it was supposed to. How do we construct narrative mental spaces and establish such connections between them?

Conceptual Blending. The ox and the donkey talk. Talking animals are so common in stories as to seem natural. Why do they arise in imagination and why should they seem natural? This apparently idle question turns out to be both essential to the investigation of mind and profoundly difficult to answer. Conceptual blending—in this case, the blending of talking people with mute animals to produce talking animals—is a basic process of thought. How does it work? What is its range?

Language. The parable of the ox and the donkey is expressed in language. Where does the structure of our language "come from" and what is its relation to parable?

We imagine realities and construct meanings. The everyday mind performs these feats by means of mental processes that are literary and that have always been judged to be literary. Cultural meanings peculiar to a society often fail to migrate intact across anthropological or historical boundaries, but the basic mental processes that make these meanings possible are universal. Parable is one of them.

2

HUMAN MEANING

Hamlet: Do you see yonder cloud that's almost in shape of a camel?
Polonius: By th'mass, and 'tis like a camel indeed.
Hamlet: Methinks it is like a weasel.
Polonius: It is backed like a weasel.
Hamlet: Or like a whale.
Polonius: Very like a whale.

William Shakespeare, Hamlet

IN THE TALE of the ox and the donkey, it is easy to see that we are dealing with *story, projection,* and *parable.* It is harder to see these capacities at work in everyday life, but we always use them. The rest of this book explores how the human mind is always at work constructing small stories and projecting them.

Story, projection, and parable do work for us; they make everyday life possible; they are the root of human thought; they are not primarily—or even importantly—entertainment. To be sure, the kinds of stories we are apt to notice draw attention to their status as the product of storytelling, and they often have an entertaining side. We might therefore think that storytelling is a special performance rather than a constant mental activity. But story as a mental activity is essential to human thought. The kinds of stories that are most essential to human thought produce experience that is completely absorbing, but we rarely notice those stories themselves or the way they work because they are always present.

This conjunction of what is absorbing but unnoticed is not as weird as it sounds. Human vision, for example, produces content that is always psychologically absorbing to everyone—we are absorbed in our visual field, no matter what it contains—but only a neurobiologist is likely to notice the constant mechanisms of vision that create our visual field. What everyone notices are some exceptional

products of vision: A fireworks display seems more interesting than an empty parking lot, even though vision uses the same mechanisms to see both of them. We almost never notice the activity of vision or think of vision as an activity, but if we do, we must recognize that the activity of vision is constant and more important than anything we may happen to see.

Story as a mental activity is similarly constant yet unnoticed, and more important than any particular story. In the next three chapters, we will analyze some very basic abstract stories and some very basic patterns of their projection. We will find that the same basic mechanisms of parable underlie a great range of examples, from the everyday to the literary.

The basic stories we know best are small stories of events in space: The wind blows clouds through the sky, a child throws a rock, a mother pours milk into a glass, a whale swims through the water. These stories constitute our world and they are completely absorbing—we cannot resist watching the volley of the tennis ball. Our adult experience actually revolves around pouring the drink into the cup, carrying it, watching the bird soar, watching the plane descend, tracking the small stick as the stream carries it away.

As subjects of our prolonged conscious investigation, however, these small spatial stories may seem hopelessly boring. We are highly interested in our coherent personal experiences, which are the product of thinking with small spatial stories, but we are not interested in the small spatial stories themselves. When someone says, "Tell me a story," he means something unusual and interesting. *King Lear* is a "story"; *Peter Rabbit* is a "story." Someone pouring coffee into a cup is not a "story." Why waste time thinking about a human being pouring liquid into a container? This small spatial story takes place billions of times a day, all over the world, with numbing repetition. No one who pours the liquid thinks it is an interesting story; what is the point?

We must adopt a scientific perspective to see why something we already know how to do without effort or conscious attention can pose an extremely difficult and important scientific puzzle. The capacity for recognizing and executing small spatial stories is—like the capacity to speak, to see color, or to distinguish sounds—an obvious and deceptively easy capacity. In fact, it presents the chief puzzle of cognitive science. How can five billion different human beings all recognize and execute small spatial stories?

Even the most boring person can do it, so we have a hard time imagining that the capacity can be interesting. We devalue it as we devalue any plentiful resource. Since it is universal instead of scarce, the calculus of supply and demand must fix its price at zero. But it is actually worth whatever it is worth to be a human being because if you do not have this capacity, you do not have a human mind.

These small stories are what a human being has instead of chaotic experience. We know how they go. They are the knowledge that goes unnoticed but makes life possible. We do not need to worry about our movements or our interaction with the world because we have absolute confidence in these stories. They are so essential to life that our mastery of them must be almost entirely unconscious; from a biological point of view, we cannot be trusted to run them consciously. In important moments, we had better not notice them, just as we had better not notice mechanisms of vision while we are fleeing a predator. We have in fact no practical need to analyze them. Biologically, they must be *unproblematic*, making them seem intellectually boring. But they become intellectually interesting the moment we lack them.

These stories are inventions. They are essential, but they are invented. This conjunction of adjectives may seem paradoxical if we think of essential things (like a heartbeat) as compulsory or necessary and invented things (like a light bulb) as optional. In that way of thinking, what is essential and what is invented must be contraries. But although these small spatial stories are inventive constructions of the human mind, they are not optional. The necessary biology and the necessary experience of any normal human infant inevitably produce a capacity for story in the infant. It is not possible for a human infant to fail to achieve the concept of a container, for example, or liquid, or pouring, or flowing, or a path, or movement along a path, or the product of these concepts: the small spatial story in which liquid is poured and flows along a path into a container. Our core indispensable stories not only can be invented, they must be invented if we are to survive and have human lives.

We can see their status as inventions by contrasting them with alternative representations of the world. When we watch someone sitting down into a chair, we see what physics cannot recognize: an animate agent performing an intentional act involving basic human-scale categories of events like *sitting* and objects like *chair*. But physics offers a representation of the world that leaves out agency, motive, intentionality, and a range of structure that is part of the conceptual equipment of everyone, including physicists. The basic elements of physics are not tied to the human scale; *sitting* and *chair* are elements of story but not elements of physics. The fundamental units of physics exist at levels that are foreign to us—subatomic quarks, metrics of space-time, integrations from zero to infinity. Where physics offers an impenetrable but accurate physical description in the form of a wave equation, story offers Einstein sitting in a chair.

In our small stories, we distinguish objects from events, objects from other objects, and events from other events. We categorize some objects as belonging

to the category *person* and other objects as belonging to the category *chair*. We recognize what a person does with a chair as belonging to the category *sitting*.

We understand our experience in this way because we are built evolutionarily to learn to distinguish objects and events and combine them in small spatial stories at human scale in a way that is useful for us, given that we have human bodies. This is what the human brain does best, although a divine intelligence with a God's-eye view might have no use for the human concepts *object* and *event*, no use for human perceptual categories of kinds of objects and events, and no use for small spatial stories.

There is a general story to human existence: It is the story of how we use story, projection, and parable to think, beginning at the level of small spatial stories. Yet this level, although fully inventive, is so unproblematic in our experience and so necessary to our existence that it is left out of account as precultural, even though it is the core of culture. When it is left out of account, the human condition can appear to have no general story. As Clifford Geertz has observed,

> It is necessary then to be satisfied with swirls, confluxions, and inconstant connections; clouds collecting, clouds dispersing. There is no general story to be told, no synoptic picture to be had. Or if there is, no one, certainly no one wandering into the middle of them like Fabrice at Waterloo, is in a position to construct them, neither at the time nor later. What we can construct, if we keep notes and survive, are hindsight accounts of the connectedness of things that seem to have happened: pieced-together patternings, after the fact.

But Geertz's claim that there is no general story is itself a general story not of what we know but of how we know, and his story is possible only because there is already in place, behind it, a general story about human thought. The general story is that human beings construct small spatial stories and project them parabolically. Geertz's story depends upon this general story: Like Hamlet and Polonius, he gives us small spatial stories in which we recognize clouds that collect or disperse, shapes that we assign to categories of objects, pieces that we put together, liquids or gases that swirl and flow together, vistas that we see, and so on; and he encourages us to use the mental process of parable to project these small spatial stories we know and must know since we are human onto the story of human culture and knowledge. His description of the absence of a general story begins with small spatial stories and projects them parabolically onto stories of human thought. Its compelling use of story, projection, and parable demonstrates the general story of the human condition—a story whose existence it denies.

IMAGE SCHEMAS

How do we recognize objects, events, and stories? Part of the answer has to do with "image schemas." Mark Johnson and Leonard Talmy—followed more recently by Claudia Brugman, Eve Sweetser, George Lakoff, Ronald Langacker, me, and many others—have analyzed linguistic evidence for the existence of image schemas. Image schemas are skeletal patterns that recur in our sensory and motor experience. *Motion along a path*, *bounded interior*, *balance*, and *symmetry* are typical image schemas.

Consider the image schema *container*. Like all image schemas, it is minimal. It has three parts: an interior, an exterior, and a boundary that separates them. We experience many things as containers: a bottle, a bag, a cup, a car, a mountain valley, rooms, houses, cupboards, boxes, chests, and drawers. Two of our most important containers are our heads and our bodies.

We use the image schema *motion along a path* to recognize locomotion by people, hands reaching out to us, our own hand reaching out, a ball rolling, milk pouring into a cup.

Simple image schemas can combine to form complex image schemas. For example, the *goal* of the *path* can be the *interior* of a *container*. This combination produces the complex image schema *into*. Alternatively, the *source* of the *path* can be the *interior* of a *container*, producing the complex image schema *out of*. The *path* can intersect a *container*, producing the complex image schema *through*.

There are many other image schemas we use to structure our experience, and thereby to recognize objects and events and place them in categories. Leonard Talmy originally analyzed image schemas of force dynamics such as *pushing*, *pulling*, *resisting*, *yielding*, and *releasing*. Other dynamic image schemas include *dipping*, *rising*, *climbing*, *pouring*, and *falling*.

Image schemas arise from perception but also from interaction. We *perceive* milk flowing into a glass; we *interact* with it flowing into our bodies. We recognize a category connection between one door and another, one chair and another, one ball and another, one rock and another, one event of *pouring* and another not only because they share image schemas of shape or part-whole structure, but also because our image schemas for interacting with them are the same. Our image schemas for *interacting* with an object or an event must be consistent with our image schemas for *perceiving* it if perception is to provide a basis for action.

To recognize several events as structured by the same image schema is to recognize a category. We have a neurobiological pattern for throwing a small object. This pattern underlies the individual event of throwing a rock and helps us create the category *throwing*. We have a neurobiological pattern for reaching

out and picking something up. This pattern underlies an individual event of reaching out and picking something up and helps us create the category *reaching out and picking up.*

Every time such a pattern becomes active it is slightly different. If we think of how often we reach out to pick up a glass and under what different conditions the event takes place, we see how varied the actual event is in its exact details each time it occurs. Our bodies are at slightly different orientations to the glass; the glass is slightly nearer or farther away; the glass sits on a slightly different surface; there may be obstructions to be avoided; the glass has a slightly different shape or weight or texture. We recognize all of the individual events of picking up a glass as belonging to one category in part because they all share a skeletal complex image schema of dynamic interaction.

Partitioning the world into objects involves partitioning the world into small spatial stories because our recognition of objects depends on the characteristic stories in which they appear: We catch a ball, throw a rock, sit in a chair, pet a dog, take a drink from a glass of water.

PROJECTING IMAGE SCHEMAS

Parable often projects image schemas. When the projection carries structure from a "source" we understand to a "target" we want to understand, the projection conforms to a constraint: The result for the target shall not be a conflict of image schemas.

For example, when we map one rich image onto another, the (relevant) image schemas of source and target end up aligned in certain ways. It may seem obvious when we say someone's head is hanging like a wilted flower, or when Auden describes a solitary man weeping on a bench and "Hanging his head down, with his mouth distorted, / Helpless and ugly as an embryo chicken," that the verticality schemas in the source images (flower and chicken) and target image (human head) should align. It may seem equally obvious that part-whole relationships in source and target images should align, that a bounded interior should project to a bounded interior, that directionality of gaze should correspond in source and target, that relationships of adjacency should correspond, and so on. But in fact it is not at all obvious, however natural it seems. The specific details of the rich images need not correspond, but the relevant image schemas are lined up.

When we project one concept onto another, image schemas again seem to do much of the work. For example, when we project spatiality onto temporality, we project image schemas; we think of time itself, which has no spatial shape, as

having a spatial shape—linear, for example, or circular. We like to think of events in time, which also have no spatial shape, as having features of spatial shapes—continuity, extension, discreteness, completion, open-endedness, circularity, part-whole relations, and so on. This way of conceiving of time and of events in time arises by projecting skeletal image schemas from *space* onto *time*.

We think of causal relations as structured by spatial image schemas such as *links* and *paths*. These image schemas need not be static. For example, we have a dynamic image schema in which one thing comes out of another, and we project that image schema to give structure to one of our concepts of causation, as when we say that Italian *emerged from* its mother, Latin. Abstract reasoning appears to be possible in large part because we project image-schematic structure from spatial concepts onto abstract concepts. We say, for example, "Shame *forced* him to confess," even though no physical forces are involved. Forms of social and psychological causation are understood by projection from bodily causation that involves physical forces. This is parable.

SEQUENCES

A woman sees a rock, moves toward it, bends down, picks it up, and stands back up. Her legs, body, and arms begin an amazingly intricate sequence of movements. Her hand releases the rock, which follows a trajectory through the air to hit the window, which shatters.

The brain is extremely good at constructing refined and intricate sequences of movement and then executing them, as when we run to catch a baseball. William H. Calvin's *Cerebral Symphony* is a meditation upon whether this capacity might be considered the one central capacity of human intelligence. As Calvin shows, running and walking are marvels of the brain's ability to compose and execute motor sequences. We share the capacity for such sequencing of bodily action with other species. But peculiarly human mental activities also depend upon sequencing. Composing or recognizing a musical phrase, speaking or listening to a sentence, and telling or understanding a story are all examples of our ability to recognize or execute a sequence that counts as a whole. The sequential nature of speech has historically been recognized as one of the defining features of language. Many cognitive scientists have observed that the human brain is uncommonly sophisticated in its capacity for constructing sequences.

To recognize small spatial stories requires us to recognize not only objects involved in events, but also sequences of these situations. The ball is pushed; it rolls; it encounters an obstacle; it knocks the obstacle over, or the obstacle stops the ball. In another small spatial story, our father's hand grasps an object and

moves the object to a position in front of us; the hand releases; the hand withdraws; we reach out; we touch the object; we grasp the object; we put it into our mouth; we release it; we remove our hand; we chew it; we swallow it.

In recognizing small spatial stories, we are recognizing not just a sequence of particular objects involved in particular events, but also a sequence of objects *that belong to categories* involved in events *that belong to categories*. Every time our father places food in front of us, both his actions and the food will be somewhat different, and our actions in response will be somewhat different. But we recognize the objects and events as essentially the same, as belonging to the same category. We recognize a general story. Our experiences differ in detail, but we make sense of them as consisting of a repertoire of small spatial stories, repeated again and again.

These small spatial stories are routinely held together by one or more dynamic image schemas. Consider a fish jumping out of the water through an arc and back into the water, a baseball hit from a bat to fly through an arc into the stands, a rock thrown to hit a distant object, a bird flying from one tree to another. All of these sequences are structured by the image schema of a point moving along a directed path from a source to a goal. This dynamic image schema inherently carries with it a sequence of spatial situations. Consider the image schema of something moving to the edge of a supporting plateau and falling off. This is a temporal sequence combining image schemas. There is no end to the number of particular small spatial stories it structures: a ball rolling off a deck, a keg rolling off a dock, a puddle of tea pouring off the side of a table, a human being walking off a roof.

EXECUTION, RECOGNITION, IMAGINATION

Most of our action consists of executing small spatial stories: getting a glass of juice from the refrigerator, dressing, bicycling to the market. Executing these stories, recognizing them, and imagining them are all related because they are all structured by the same image schemas.

If we see someone pick up a stone and throw it at us, we do not need to wait for the stone to hit us before we can recognize the small spatial story and respond to it. We recognize small spatial stories on the basis of partial information. When we duck, it is because pattern completion tells us the possible end of the small spatial story in which we are hit by the stone. Suppose we see nothing but a stone smashing into a window. We immediately look in the direction from which the stone came to see who or what threw it. Suppose we see only someone's arm go back, and a few seconds later, a stone hitting a window. We can imagine

the intermediate sequence in the story. Finally, suppose we see none of the story, but only imagine it with our eyes closed. In this last case, the recognition of the small spatial story has been activated without perception of any of its parts.

PREDICTION, EVALUATION, PLANNING, EXPLANATION

We duck when we see someone cock an arm to throw a stone at us because we are predicting: we recognize the beginning sequence of a small spatial story, imagine the rest, and respond. Narrative imagining is our fundamental form of predicting

When we decide that it is perfectly reasonable to place our plum on the dictionary but not the dictionary on our plum, we are both predicting and evaluating. Evaluating the future of an act is evaluating the wisdom of the act. In this way, narrative imagining is also our fundamental form of evaluating.

When we hear something and want to see it, and walk to a new location in order to see it, we have made and executed a plan. We have constructed a story taking us from the original situation to the desired situation and executed the story. The story is the plan. In this way, narrative imagining is our fundamental cognitive instrument for planning.

When a drop of water falls mysteriously from the ceiling and lands at our feet, we try to imagine a story that begins from the normal situation and ends with the mysterious situation. The story is the explanation. Narrative imagining is our fundamental cognitive instrument for explanation.

ANIMACY AND AGENCY

Small spatial stories involve events and objects. We recognize some of these objects as animate actors. From time to time it has been considered philosophically embarrassing that we think of animate actors as causes in themselves. Objects and events seem to have a claim on objective existence, but animacy and agency seem almost supernatural and suspicious as elements of a scientific theory. Many attempts have been made to reduce animacy and agency to simple matters of objects and events. We have eliminated river gods and wind deities and tree spirits from our descriptions of the natural world. But small spatial stories are often populated with animate actors that show no sign of disappearing. What are they?

Prototypical actors—human beings and many animals—are recognized as self-moving and as capable of sensation. Self-movement, like all movement, is recognized by means of dynamic image schemas: we recognize an event of self-

movement when we recognize it as conforming to an image schema of self-movement. It is more difficult to say how we recognize sensation by actors other than ourselves, since we can have only our own sensations, not theirs. We can perceive their movements but we cannot perceive their sensations. We must infer their sensations by analogy with ourselves: they appear to move in reaction to sensations just as we would. We recoil when startled; we track a visual stimulus; we turn from an unpleasant smell. They appear to do the same things. We see the cat jump backward in surprise or move when it recognizes a bird, and we infer the cat's sensations from its movements. Recognizing objects (other than ourselves) as having sensations depends in this way upon recognizing them as self-moving: we can infer their sensations from their self-movements. This is already parable: We see a small spatial story in which an actor other than ourselves behaves in certain ways, and we project features of animacy and agency onto it from stories in which we are the actor.

Prototypical objects can be moved. Objects that are prototypical actors are perceived as able to move themselves and able to move other objects. If actors move objects, what moves the actors? What is the source of their movement? One answer that has come up historically is *the soul.* The soul is what moves the body. The body is the object the soul moves as a consequence of its own self-movement. In *On the Soul,* Aristotle surveys theories on the nature of the soul, showing that in nearly all of them, soul is regarded as having movement and sensation. His survey testifies to the antiquity and durability of recognizing actors as movers and sensors. This abstract concept of the soul is created by a parabolic projection. We know the small spatial story in which an actor moves a physical object; we project this story onto the story of the movement of the body. The object projects to the body and the actor projects to the soul. In this way, parable creates the concept of the soul.

When Aristotle writes of self-movement, he appears to be thinking of movement complexes, because something that is self-moving uses its capacity for self-movement often, making the trajectory of its movement irregular. A horse, for example, does not move the way a cannon ball moves or the way an apple falls from a tree or the way a ball rolls down a smooth incline: the horse moves here and there, to one side and the other, moving its head this way and that. The movement of a person or an animal looks like a complex of many movements, resulting in a complex trajectory. In short, the image schema for recognizing the self-movement of an actor is more detailed than the image schema for recognizing the "self-movement" of the ripe apple's fall to the ground.

We detect *self-movement* by an object when we recognize an image schema of movement not caused by external forces. We detect *animacy* when this image schema is a complex of a number of movements. We detect *caused motion* when

we recognize a complex dynamic image schema in which the motion of one object causes the motion of another object. We detect *animate agency* when we recognize an image schema of *animacy* combined with an image schema of *caused motion*, as when a baby reaches out (animacy) and picks up the rattle (caused motion). The causal object in an image schema of *animate agency* is usually recognized as an *actor*.

These recognitions do not stand up scientifically. We know that the wind may move variously and blow the leaves in subtle and varied patterns, or that the acid may eat the metal violently and erratically, thus fitting image schemas characteristic of actors, yet we do not want to place the wind and the acid in the same category with human beings and animals. But our reluctance to do so shows only that when we acquire a sophisticated scientific knowledge, we discount the validity of some of our recognitions. For virtually the entire history of human cognition, it has seemed plausible to regard the wind as an honorary actor because although it lacks sensation, it has the image schemas of animate agency. To the intelligent newborn child, the jouncy voice-activated mobile above the crib that moves when the child vocalizes may seem to be an excellent candidate for *actor*.

RESEARCH ON IMAGE SCHEMAS

The term *image schema* was proposed by Mark Johnson, but the notion has a long lineage and many current cousins. Here, I review some of the most salient research. In "Further Reading on Image Schemas" I list some general introductions to image schemas as well as the specific works I cite in this section.

IMAGE SCHEMAS IN THE BRAIN. It is relatively easy to see image schemas at work in behavior and language. To walk in the rain, we must go *outside* our *house-container* so we will not be *under* a roof that *stops* the rain from *falling down onto* us, and we must *move* along a *path out of* doors.

It is harder to locate image schemas at work in the brain, but there are early indications. The cerebellum, for example, has traditionally been recognized as a specialized part of the brain suited for neuronal group patterns whose activation results in sequences of precisely timed and coordinated movement, like throwing a curve ball or touch-typing a common word or playing a theme on the piano. What we would like to know is how such brain patterns for spatial movement are connected across modalities: When we see someone throw a rock at a window, the visual image schemas according to which we recognize and understand the event are presumably connected to the kinesthetic image schemas according to which we perform the event, the auditory image schemas that belong to the event, and the tactile image schemas of touching the rock. Theo-

ries of connections between such image schemas have only recently been developed and remain speculative. Antonio Damasio has proposed a neurobiological model of "convergence zones" that might have something to say about such cross-modal integration. His model "rejects a single anatomical site for the integration of memory and motor processes and a single store for the meaning of entities or events. Meaning is reached by time-locked multiregional retroactivation of widespread fragment records. Only the latter records can become contents of consciousness." Because a higher-order convergence zone is cross-modal, it offers a site for activating different neuronal patterns corresponding to the identical image schema across different modalities.

The most specific evidence of image schemas in the brain comes from reports of what are known as "orientation tuning" columns. The primary visual cortex responds to moving bars of light in an interesting way: A given neuron will have a preferred "orientation tuning"—it will respond best to a bar at a given angle. Other neurons in the column appear to have the same preferred stimulus, so that the column constitutes a neuronal group of cells that fire together in time in an organized manner to recognize a line at a preferred angle. Different orientation columns prefer different angles. In this way, orientation tuning columns work like neurobiological image schemas for structuring certain kinds of visual experience and for understanding it. These orientation tuning columns in the primary visual cortex are connected to neuronal groups in another, separate visual map, known as V2, and these two connected visual maps respond coherently to the same preferred stimulus, which suggests that image schemas in primary visual cortex are coordinated with analogous image schemas in V2.

Gerald Edelman's theory of neuronal group selection offers a suggestion for a general neuroscientific explanation of image schemas. In simplistic outline, it has the following logic. A sensory sheet (like the retina) projects to various regions of the nervous system (called "maps"). For any particular map, repeated encounter with a stimulus results in changes in synaptic strengths between neurons in the map, thus forming up ("selecting") certain neuronal group patterns in that map that become active whenever the stimulus is encountered. For any particular stimulus object, there will be many neuronal group patterns in many maps. (For example, there are different maps for different modalities, like vision, and for different submodalities, like form, motion, and color.) These various neuronal group patterns in the various maps are linked through another hypothetical neurobiological process Edelman calls "reentrant mapping": a given stimulus will result in activity in many maps, and these activities are linked reinforcingly through "reentry."

For example, an image schema for *container* would be a coordinated dynamic interaction across neuronal group patterns in various maps that arose through

experiential selection and reentry during encounters with a great variety of things that gradually came to be categorized as containers exactly *because* we take them to share this dynamic interactional image schema. The image schema itself needs no translation: it is meaningful, when activated, as corresponding to this category.

It would be a mistake to overwork or overinterpret these beginning results. It is not clear how to connect the evidence for image schemas in the study of the mind to the evidence for image schemas in the study of the brain. Perhaps the neurobiological analogue of an image schema is not one neuronal group pattern but rather the complex interaction of several neuronal group patterns in different sites, all coordinated. The best evidence to date of the specific nature of image schemas still comes from the study of language.

IMAGE SCHEMAS IN BASIC-LEVEL CATEGORIES. Outside the neurosciences, psychological studies are beginning to provide evidence for the role of image schemas in categorization and cognition. Psychologists Eleanor Rosch and Carolyn Mervis and a range of associates have made insightful discoveries in the last fifteen years concerning the conceptual categories of concrete objects. Rosch and her colleagues showed that there is one level of abstraction around which most information is organized. They call it the "basic" level—the level of concepts like *dog, table, car, tree, house, bicycle, spoon,* and *giraffe.* The basic level, essentially, is the level at which we partition our environments into objects with which we interact in small spatial stories: *chair, door, knife, ball, rock.* Rosch presents evidence that the basic level is the highest level at which category members share overall perceived shapes and the highest level at which members call for similar interactional motor patterns. Since these overall shapes and these interactional patterns are image schemas, Rosch's work provides evidence for the role of image schemas in structuring perceptual and conceptual categories. Although the tradition of research on "basic-level" categories is controversial, none of the controversy detracts from this essential point.

IMAGE SCHEMAS IN DEVELOPMENTAL PSYCHOLOGY. In a 1992 article in *Psychological Review* called "How to Build a Baby: II. Conceptual Primitives," Jean Mandler presents evidence for image schemas from clinical experiments in developmental psychology. She claims that infants develop concepts of animacy and agency on the basis of image schemas. The image schemas she proposes are closely equivalent to those we have considered above.

Mandler attempts to explain how the developing infant might go from forming discriminable perceptual categories to using them for thought. She proposes that certain kinds of perceptual information are recoded into forms that represent meanings. This recoding produces a set of image schemas that serve as con-

ceptual primitives (in the sense of being foundational, not in the sense of being atomic, unitary, or without structure). She proposes that infants form an image schema of self-motion ("an object is not moving, and then, without any forces acting on it, it starts to move"), of animate-motion (motion with an irregular trajectory), of self-moving animate (a complex combination of the previous two), of caused motion (a trajector impinges on an object and it then moves), and of agency (a combination of the image schemas of animacy and caused motion, in which an animate object moves itself and also causes another object to move.)

Mandler, in essence, proposes a general psychological process whereby perceptual experience is redescribed "into an image-schematic form of representation" used in building concepts.

NARRATIVE AND THE BODY

At conception, an individual human being carries an individual genetic endowment (genotype) that arose under evolutionary pressures of selection and that guides her individual brain as it develops in its changing environments. That genotype cannot determine the fine specifics of point-to-point wiring and activity in the individual brain, but it can (and must) contribute to setting up a nervous system that will reach certain target values under experience. That genotype must do this because of Darwinian pressures: Genes that lead to less competent brains will be selected against. The genes implicitly provide target values for the developing brain. Those values derive implicitly from the history of selection on our ancestors. The particular target values that have arisen in our species are, at a minimum, stable regulation of homeostasis and metabolism, dispositions toward survival and reproduction, bodily movement in space, perceptual categorization, and the recognition and execution of small spatial stories. The combined operation of genetic influence and necessary experience of the sort inevitable for any normal human infant with a human body in a human environment leads to the ability to recognize and execute small spatial stories.

Seen in this way, narrative imagining, often thought of as literary and optional, appears instead to be inseparable from our evolutionary past and our necessary personal experience. It also appears to be a fundamental target value for the developing human mind.

3

BODY ACTION

But Apollo took from them the day of their return
αὐτὰρ ὁ τοῖσιν ἀφείλετο νόστιμον ἦμαρ

Homer, the Odyssey

IN THIS CHAPTER and the next, we will begin to map the basic parabolic terrain of the everyday mind. We will look at fundamental and extremely common patterns of parable that are essential to everyday thought, reasoning, and action, and that show up in literary examples for the reason that literature takes its instruments from the everyday mind. We will see some extremely basic abstract stories and some extremely common projections of those stories. Any single detail of these many related projections may look as if it could interest only the specialist, but taken together, these details provide an overall picture of the importance of parable in the everyday mind.

We begin by looking at stories that involve actors engaged in bodily action. Often a spatial story has no actor. The small spatial story of a wall's collapsing from age, for example, has no actor. Often a spatial story has many partial or potential actors and many intricate events that are brought about by no single distinct actor. The story of a bridge's giving way after years of use is such a story. Unfamiliar or complicated event-stories like these are easy to grasp by projection from simple action-stories we already know. Parable, by projecting simple action-stories onto unfamiliar or complicated event-stories, extends the range of action-stories.

Parable extends story through projection. One type of extremely fundamental projection projects action-stories onto event-stories. George Lakoff and I named this general pattern EVENTS ARE ACTIONS. An action is an event with an actor.

EVENTS ARE ACTIONS guides us in projecting familiar action-stories onto event-stories with or without actors. EVENTS ARE ACTIONS is a special case of parable: The source story is an action-story; the target story is any kind of event-story, including action-stories.

We can observe an example of this kind of parable in the first few lines of the *Odyssey*, where Homer refers to the thoughts of Odysseus and to the sad fates of his shipmates as they sailed homeward toward the island of Ithaka:

> Many were the men whose cities Odysseus learned and whose
> minds he came to know,
> Many were the cares he suffered inwardly upon the sea,
> Hoping for his own life and the return of his crew.
> He could not save them, although he wanted to.
> Their own blind folly destroyed them.
> Idiots, they ate the cattle of Apollo.
> But Apollo took from them the day of their return.
>
> πολλῶν δ' ἀνθρώπων ἴδεν ἄστεα καὶ νόον ἔγνω,
> πολλὰ δ' ὅ γ' ἐν πόντῳ πάθεν ἄλγεα ὃν κατὰ θυμόν,
> ἀρνύμενος ἥν τε ψυχὴν καὶ νόστον ἑταίρων.
> ἀλλ' οὐδ' ὣς ἑτάρους ἐρρύσατο, ἱέμενός περ·
> αὐτῶν γὰρ σφετέρῃσιν ἀτασθαλίῃσιν ὄλοντο,
> νήπιοι, οἳ κατὰ βοῦς Ὑπερίονος Ἠελίοιο
> ἤσθιον· αὐτὰρ ὁ τοῖσιν ἀφείλετο νόστιμον ἦμαρ.

The shipmates, returning from the Trojan War, sailed toward Ithaka with Odysseus, but in their wanderings they died at various times and in various ways. None of them made it home to Ithaka. This is a complicated spatial story of a journey, structured by the image schema of a directed path from a source (Troy) to a goal (Ithaka). For each of the shipmates, the progress along the path halts before the goal is reached. Many events of death occur in the elaborate story of this journey, with no single clear agency responsible for all of them. Homer chooses to present this complicated spatial event-story of a journey through parable: He projects onto it a simple spatial action-story in which there is one actor, Apollo, who is responsible for all these deaths. The source story is an action-story not of a journey but rather of an actor's physical manipulation of an object: Apollo, god of the sun, "takes" "something" "away from" the shipmates. What he takes away is conceived as an object: "the day of their return." This looks highly literary, and of course it is, since this parable intricately projects a story of physical manipulation onto a story of a journey. But parabolic projections occur in literature because they are already indispensable in the everyday mind.

In everyday conception, we often project a spatial action-story onto a spatial event-story. We might say, for example, that a duplicating machine *chewed up* a document. The target story is a physical and spatial event without an actor: A document is damaged in a copying machine. The source story is a physical and spatial action with an actor: The actor chews food. We understand the target event-story of *damage* by projection from the source action-story of *eating*. *Chewing* in the source story is projected onto the *mechanical process of copying* in the target story; *food* is projected onto the *document; chewer* is projected onto *the copying machine.* An action-story of *eating* is thus projected parabolically onto an event-story of *damage.*

We can say of a sailor exposed to the elements at sea that the sun *tortured* him and that he was *beaten mercilessly* by *savage* winds. The story of an actor who tortures someone by burning him is projected onto the story of the sailor's becoming sunburned. The story of a savage actor's mercilessly *beating* a victim is projected parabolically onto the story of forcible gusts of wind *impinging* on the sailor.

Many everyday event-stories lack causal actors. EVENTS ARE ACTIONS can turn them into action-stories: We complete the event-story to include a causal actor by projecting the actor in the action-story onto a nonactor in the event-story. The nonactor becomes thereby a metaphorical actor, usually a person. The duplicating machine becomes a *chewer.* The sun becomes a *torturer.* The wind becomes a *savage and merciless beater.*

Not just any element of the event-story can receive projection from the actor in the action-story. Not just any action-story can be projected in just any way to cover just any event-story. There are constraints on parable. Not surprisingly, these constraints depend on the image schemas we use to structure the event-story and the action-story.

THE IMAGE-SCHEMATIC STRUCTURE OF EVENTS

We appear to understand an event as having its own "internal" structure: It can be punctual or drawn out; single or repeating; closed or open; preserving, creating, or destroying entities; cyclic or not cyclic, and so on. This internal structure is image-schematic: it is rooted in our understanding of small spatial stories. Technically, this internal structure of an event is called its "aspect." I will refer to it loosely as its "event shape." We think of a season as coming around again, time as progressing along a line, a search as going on, a sale as closed, a blink as punctual (like a spatial point). None of these events has the literal spatial or bodily form we associate with it, but we use these image schemas to structure and recognize these events.

In addition to "event shape," events also have causal structure, which is also image-schematic. Causation by physical force, for example, is typically understood through image schemas of force dynamics. When the force of the sledgehammer causes the door to fall, or a punch causes a boxer to fall, or a gust of wind topples the tree, we understand all of these events as instances of a particular image schema of physical force dynamics, which is why we can say of all of them that the first entity (sledgehammer, boxer, wind) "knocked" the other entity (door, opponent, tree) "down." Phrases like "The tidal wave swept the resort away," "The telephone pole crushed the car," "The roof gave in when the tree fell on it," "The river cut a new path," and similar expressions all portray causal events through image schemas of physical force dynamics.

Leonard Talmy has shown that image schemas of force dynamics are also used to structure nonphysical causation, as when we say, "The sight of blood *forced* him to run," "His ambition *propelled* him to excess," or "The committee finally gave *in* and *collapsed*." Causes are often understood by projecting onto them image schemas of force dynamics.

Some causes are understood by projecting onto them the image schema of *movement along a path*. First consider physical causation. A physical event of movement often involves a change of location. We are in one location, and then we are in another. The change is caused by our movement along a path. We say, "The road led us from the mountaintop to the valley floor," and understand it to mean that first we were in one situation, the mountaintop, and then we were in a different situation, the valley floor, and that going from one location to the other constituted a change of situation, and that the cause of this change in situation was movement along the path. Now consider nonphysical causation. The image schema of movement along a path can be projected onto nonphysical causation, as when we say, "The economy sank to its lowest point." The initial situation (strong economy) is understood by projection from the beginning of the path, and the final situation (bad economy) is understood by projection from the endpoint of the path. Both situations are understood by projection from spatial locations. The causal relation connecting the first situation to the second situation is understood image-schematically as a path between the first location and the second. Of course, "path" causation and "force-dynamic" causation usually go together. In "Fear *drove* him *to* a situation he otherwise would have *avoided*," we have both.

We also recognize the elements and parts of an event as standing in certain relations to each other, such as ability (actors are able to perform actions), obligation or necessity (a command may require the action), possibility (some condition may allow the actor to perform the action), and so on. Relations of these sorts are referred to technically as "modal" structure. These relations too are

understood through projection from physical image schemas. When we think of someone as able to deal with a difficulty, we say, "He can *break* through that *psychological barrier* if he wants to." In that case, will is understood as a physical force and difficulty as a physical barrier, where the physical force (will) is strong enough to break through the barrier (difficulty). Alternatively, we might say, "He can *overcome* that if he tries." In that case, will is understood as a physical force and difficulty as a physical barrier, where the physical force (will) is strong enough and oriented suitably to flow over the physical barrier (difficulty). In either case, we know from the force-dynamic image schema that the force continues past the point of the barrier. It is therefore an inference that someone who "breaks through" or "overcomes" a "barrier" will continue along his "path" toward his "destination."

The projection of an action-story onto an event-story depends on the projection of the image schemas of the first story onto the second story.

IMAGE SCHEMAS AND INVARIANCE

Just as we categorize events according to shared image schemas and actions according to shared image schemas, so we project action-stories onto event-stories in accord with their image schemas. We project image-schematic structure from the action-story to give structure to the event-story, but under a constraint: The result shall not be a clash of image-schematic structures in the target. Let us consider an example, Robert Browning's poem "Porphyria's Lover," which begins:

> The rain set early in to-night,
> The sullen wind was soon awake,
> It tore the elm-tops down for spite,
> And did its worst to vex the lake.

In the source action-story, there is a causal link between the actor who tears something down and the event of tearing down. This structure is image-schematic. In the target event-story, there is a causal link between the wind and the falling of the trees. This structure is image-schematic. Projecting one onto the other creates no clash in the target, since they match. But we could not say, for example, "The transparency of the wind tore the treetops down for spite," without provoking objection or offering an explanation, because the expression asks us to project an image-schematic causal link in the action-story onto two things in the event-story that we cannot think of as causally linked. Anyone who found the expression unobjectionable would have to be interpreting the target inventively

so as to find such a causal link between the transparency of the wind and the falling of the trees.

The event in which standing objects are torn down by a person has an event shape structured by image schemas; the event in which elms are toppled in the wind has an event shape structured by the identical image schemas. Projecting the first onto the second creates no image-schematic clash. But we could not say, for example, "It wore the treetops down for spite," to express the same event-story, because the action of *wearing down* has an image-schematic event shape incompatible with the image-schematic event shape of *wind forcing trees over.*

In general, conceptual projection from a source to a target is not arbitrary: it is guided by the principle of avoiding an image-schematic clash in the target. This principle is called "the invariance principle." We will encounter it often in our investigation of parable. It does not require that the image schema projected from the source already exist in the target before the projection, but instead that the result of the projection not include a contradiction of image schemas.

In Browning's poem, a spatial event-story of trees falling before the wind is understood by parabolic projection from a spatial action-story of someone tearing something down intentionally. The instrument of this projection is EVENTS ARE ACTIONS, which invites us to personify something in the event that is causally related to the event. Browning takes advantage of that possibility to personify the wind.

EURIPIDES'S *ALCESTIS*

In Browning's poem, we saw a spatial action-story projected onto a spatial event-story. A spatial action story can also be projected onto a *nonspatial* event story. In Euripides's *Alcestis,* Apollo has arranged for Admetus to live beyond his appointed moment of death, provided he can produce a volunteer to die in his place. His wife, Alcestis, has volunteered. The play opens on the day of her death.

An event of death is not essentially a spatial story. Certainly, a corpse may be buried, so that the body moves from one spatial location to another, but the event of death is conceptually independent of any such movement. Yet we routinely conceive of the event-story of death parabolically by projection from the action-story of someone's departing, willingly or not, as when we say "He's gone" or "He's left us" to indicate that someone has died: the spatial action-story of departure is projected onto the nonspatial event-story of death.

There is an image-schematic event shape associated with the standard conception of death: Something that has existed goes out of existence forever. There is also an image-schematic event shape associated with the standard conception

of departure without chance of return: Someone who has been present goes away forever. The image-schematic structure of the event shape of death accords with the image-schematic structure of the event shape of departure; therefore, projecting the action-story onto the event-story does not create a clash in the target.

In any particular event-story of death, there will be a particular cause: illness, disease, injury, old age. We count all of them as instances of a general cause, Death-in-general. The notion that Death causes dying follows from our general conception of causal tautology: Death causes dying, Hunger causes hungering, Lust causes lusting, Desire causes desiring, Sleep causes sleeping. In all of these, an event of a certain kind is caused by an abstract causal element. In an event-story of dying, Death-in-general causes the particular death. In an action-story of departure, there can be an actor who *causes* someone to depart. If we project the person who departs onto the person who dies and the actor who causes the departure onto Death-in-general, we personify Death-in-general while preserving causal relationships. In "He left us," we project the person who departs onto the person who dies. In "Death took him," we additionally project the actor who enforces the departure onto Death-in-general.

The general personification of Death-in-general as an actor can be made more specific, depending on which action-story we project. In *Alcestis*, Death is personified in a number of ways. At one point, Death is personified as Thanatos, a wrestler who intends to take Alcestis away by dragging her body down to the halls of the dead. Heracles, a houseguest of Admetus's at the time, waits in hiding for Thanatos to appear at the grave, pounces on him, and wrestles him into yielding. In this personification, Death is an actor who tries to enforce the departure but fails.

Much earlier in the play, we have witnessed Alcestis "die." After her death, she lies in state, to be visited by her father-in-law and mother-in-law. Admetus and his father have a nasty quarrel over which of them bears responsibility for her death: The father, quite old, has refused to die in the place of his son. During this spat, Alcestis lies between them, dead. How can Alcestis be saved from death later by Heracles if indeed we have already seen her die? The answer is that in *Alcestis* death is conceived of as a complicated event with stages. Consequently, the action-story that is projected onto the event-story of death is equally complicated and has stages—it contains various actions and various actors. The complicated event-story of death involves not only the body's going underground but also the body's going limp because it no longer has a soul.

The event-story of the body's going underground is understood by projection from the action-story of Thanatos's dragging the body away. But the different event-story of the body's going limp is understood by projection from a

different action-story of departure: The soul leaves the body and goes down to Hades. This departure of the soul involves a team of two actors, neither of them Alcestis. Alcestis sees these two actors as she is "dying" on stage. The first actor is an assistant to her departure: Charon, the ferryman, who is waiting to carry her soul over the river Styx. He leans on his pole, calling to her, hurrying her along. "Why are you so slow?" he asks.

The other actor, teamed with Charon, attempts to *force* Alcestis to depart on her parabolic journey from this life. Alcestis says:

> I feel a hand grasping my hand,
> Leading me—don't you see him?—leading me
> To the home of the dead. He has wings;
> His eyes glow dark under his frowning brow.
> What are you doing? Let me go.
> I am treading a fearful path; I am terrified.
>
> ἄγει μ' ἄγει μέ τισ—οὐχ ὁρᾷς;—
> νεκύων ἐς αὐλὰν
> ὑπ' ὀφρύσι κυαναυγέσι
> βλέπων πτερωτὸς Ἄιδας.
> τί ῥέξεις; μέθες. οἵαν
> ὁδὸν ἁ δειλαιοτάτα προβαίνω.

In *Alcestis*, Death-in-general is personified not as a single agent but rather as a series of enforcers and assistants involved in the action-story of departure. The complicated event-story of Alcestis's death is not essentially spatial; the action-story of departure projected onto it is entirely spatial.

APOLLO AND THE SHIPMATES

The story of Apollo and the shipmates in the *Odyssey* is another case in which a spatial action-story is projected onto a complicated event-story. The source action-story is Apollo's taking something from the shipmates. The body action in this case is not primarily *movement of a body through space*, as in *Alcestis*, but rather *manipulation of physical objects.*

Grasping a physical object so as to control it is a common body action performed by an actor. If we grasp a physical object, we can do what we want with it: We can put it into our mouth, throw it, throw it away, give it away, put it into a pocket, enjoy it as we wish. When a physical object is within our reach, only a small movement separates us from grasping it and controlling it. Reaching for a

physical object, or moving near to it so as to reach for it, is a body action accessory to grasping it and therefore to controlling it. These are some of the earliest spatial stories learned by a child. In them, the child is the actor. Grasping a physical object so as to control it often seems to be the central story of the infant imagination.

It is common to project action-stories of grasping and controlling physical objects onto other event-stories. Conditions we control and enjoy correspond parabolically to physical objects we grasp, possess, and control. We can say of someone that he *has* a wonderful office when in fact it is owned legally by his employer; that an opportunity was *handed to him on a platter;* that he is *having* a good time; that he *grabbed* the chance; that he *holds* a good job.

Within the logic of objects and grasping, something reliably within our grasp is subject to our control. When we project an action-story of grasping, we project this logic. Thus we can say of an elected official that he *has* his voting district *in his hip pocket,* implying that he controls it. An object that we almost grasp is almost under our control. We project this inference, and so can say of a job candidate that he *has one hand on* the job but has not yet *got* it.

If something is near enough to us to be grasped and we have not yet grasped it but see no obstruction to doing so, then we are close to controlling it but do not yet control it. Projecting this logic, we can say of a thinker that the solution to the problem he is working on is *easily within his reach.* We know that a lost or discarded physical object was once in our grasp or reliably within our grasp but is no longer; we controlled it but now do not. Thus we can say that someone *lost* his job or *threw away* an opportunity. Something we give away is no longer under our control, so we can say that someone *gave up* the chairmanship. Something that is taken away is no longer under our control, so we can say that someone's job was *taken away.*

If we grip an object or otherwise make it impossible for someone else to grasp and manipulate the object, then we prevent anyone else from controlling it. Thus we can say that someone has a *firm grip on* first place or that her *grip on* the seat in the Senate cannot be *broken* or that she has the championship *all locked up* or that he has a *lock* on her affections.

In all of these cases, the spatial body action of grasping is projected onto situations that are not principally bodily or spatial. Projecting the actor from the source story personifies something in the target story. Suppose we map the body action of *taking away* onto the event-story of *becoming unemployed.* Then the state of being employed corresponds to a physical object. Enjoying that state corresponds to having the physical object in our grasp. Ceasing to enjoy that state corresponds to having the physical object removed from our grasp. Something causally related to this change of state can be personified as the actor of

that change. We can say that *a machine took* our job *away* or *recession took* our job *away*, thus projecting the actor of *take away* onto the machine or the recession.

A physical object that we expect will remain reliably within our grasp is also under our control, to the extent that our expectation is correct. If the object is in our hip pocket or all locked up, we can think of ourselves as having it at our disposal. Alternatively, if we are able to reach the object and see no obstruction, we imagine ourselves, narratively, as able to grasp it and control it. When someone, to our surprise, removes the object, as when a pickpocket steals our watch or a thief breaks the lock or someone pops out of nowhere to grab the object and run away, we feel that an actor has spatially removed a physical object from within our reliable grasp and control. Thus we can say that the happy little boy bending to pick up the penny *had* it until the last second when his older sister *took it away from him*, even though the boy never touched the coin. Parabolically, we can say of someone nearing retirement that his secure old age was *stolen from him* by a crooked labor union whose president embezzled from the pension fund, even though the employee had not yet reached old age or retired. We can say that the weather *took our sailing trip away* from us, even though we had not yet launched the boat. In this case, the weather is personified: the weather is the actor of the taking.

In the story of Odysseus's shipmates, homecoming is a state to which they look forward. They expect to be able to enjoy that state. Parabolically, it is a physical object within their grasp. The cancelation of the possibility corresponds parabolically to the *taking away* of an object. An epic story of events, deaths, and dashed expectations is understood by parabolic projection from a simple story of body action in space, in which Apollo takes something away from the shipmates. Apollo acts justly, says Homer. The shipmates had been warned to conduct themselves respectfully as they journeyed home, but, ignoring the advice of Odysseus, they turned savage and raided a herd of cattle. The cattle belonged to Apollo. They took what was his; in response, he takes what was theirs.

MOVERS AND MANIPULATORS

We have seen EVENTS ARE ACTIONS guide us in projecting the action-story of a journey. In this projection, states correspond to locations, so that the state of being alive corresponds to being present *here* and the state of being dead corresponds to having departed for a different location. Changes of state correspond to changes of location that are caused by spatial movement.

We have also seen EVENTS ARE ACTIONS guide us in projecting the action-story of reaching, grasping, holding, and taking physical objects. In this projection, states correspond to physical objects. We can grasp or fail to grasp a physi-

cal object; we can lose it or keep it. Parabolically, we can *obtain* or fail to *obtain* a state; we can *get* or fail to *get* a job; or we can *lose* a job or *keep it.*

These are two alternative ways to conceive of a state, as a *location* or as an *object*, but they combine and reinforce each other. In our spatial experience, we routinely *journey* to a *point* near a physical *object* in order to *grasp* it. We must walk to the coffee cup in order to pick it up. The state of having a physical object thus often involves two parts: *moving* toward it and *grasping* it. They go together in our experience, and they go together in the parabolic projection of stories of body action. Thus we can say of a job candidate that he had *almost arrived at the point* of *having the job in hand*, and feel no conceptual collision, even though we are projecting both movement and manipulation. We journey to an object and grasp it; parabolically, we journey to a state and have it.

In both cases, we project a routine spatial story of body action onto a story that may not necessarily be spatial.

UNDERSTANDING NONSPATIAL EVENTS

EVENTS ARE ACTIONS guides us in understanding a wide range of event-stories by parabolic projection from spatial stories of body action. Sometimes the target event-story is itself a spatial action, with an actor or actors. When a ball is thrown in the direction of a receiver but another receiver intercepts it, this is certainly a spatial action-story, with actors. But through EVENTS ARE ACTIONS, we can project a *different* spatial action-story onto it, one in which the interceptor "takes" the ball "away" from the intended receiver. Of course, the intended receiver never had the ball, so the interceptor does not literally "take" it from him; and of course, the ball may have never been near the intended receiver, and the interceptor may in fact have carried the ball *closer* to the intended receiver in catching it, so the "away" is also metaphorical. The naturalness of the projection is so deep that it requires some scrutiny before we see that one spatial story of action is being projected onto a different spatial story of action. In the tale of the ox and the donkey, it is easy to see that one story is projected onto another; here, it is much harder to see, except under analysis. But the mental instruments are the same.

Sometimes the target event is not an action-story. The small story of what the sun and waves do to the sailor, and the small story of what the rain does to the elms and the lake, are spatial events where the causes are not actors but can correspond parabolically to actors in a spatial action-story.

Sometimes the target event-story is not clearly spatial or even physical. Consider mental events. They are of course physical in the sense that they consist of neurobiological events, but we rarely if ever conceive of an idea as physi-

cal. Usually, we conceive of an idea as neither physical nor spatial. Nor do we routinely conceive of it as a literal actor. But an idea can correspond parabolically to an actor in a spatial action-story. The idea can become, parabolically, an actor performing a spatial action, as when we say, "An idea came to me unbidden," "An idea seized me," or "An idea grabbed hold of me." We can turn our thoughts parabolically into actors of movement who "elude" us or "outrun our ability to express them."

So far, we have considered cases where the source story is a spatial story of body action. We have seen that such a source story can be projected onto stories of spatial action with actors, onto stories of spatial events without actors, and onto stories of nonspatial events. We will see in what follows that the scope of projection of spatial stories is much wider still.

4

FIGURED TALES

Memory would come like a rope let down from heaven to draw me up out of the abyss of not-being, from which I could never have escaped by myself.

Marcel Proust, Remembrance of Things Past

Mind like a floating white cloud

Ezra Pound, Cantos

Time hath, my lord, a wallet at his back
Wherein he puts alms for Oblivion.

William Shakespeare, Troilus and Cressida

How all occasions do inform against me.

William Shakespeare, Hamlet

The fundamental things apply
As time goes by.

Herman Hupfeld

ACTORS ARE BODY ACTORS

EVENTS ARE ACTIONS guides us in projecting a story of action onto any kind of event-story, whether it has actors or not. The projected action is usually body action. The target event may be spatial or not. We have seen a story of *chewing* projected onto a story of *damage in the copy machine*, a story of *beating*

projected onto the story of the sailor's exposure to the elements, a story of *tearing down* projected onto the story of elmtops falling in high winds and rain, a story of a *departure* involving many actors projected onto a story of death, and a story of *one person taking a physical object away from another* projected onto the epic story of the deaths of Odysseus's shipmates.

ACTORS ARE MOVERS

One of the most common uses of EVENTS ARE ACTIONS is to project stories of body motion onto other action-stories. EVENTS ARE ACTIONS thus has a special subset: ACTORS ARE MOVERS. It is a general projection. Specific projections develop from it. Many of them are common and have become conventional. Several were noted as separate items by George Lakoff and Mark Johnson.

ACTORS ARE MOVERS is a dynamic, flexible, self-reinforcing pattern for projecting stories of body motion onto stories of action. Below is a list of common projections that arise from it. The list is not exclusive—the general projection invites creativity. The list is not obligatory—most of it can be ignored as we recruit what we need and modify or elaborate it. Elements on the list overlap considerably and sometimes imply each other. Crucially, the examples on this list are not mere figures of speech. They are not specific to language. They are expressions in language of the mental processes I call parable. They all concern the projection of a basic abstract story of movement by an actor under his own power onto a different story of action, whether or not it involves movement. These projections show up constantly in both everyday language and literary language because they are general cognitive processes indispensable to human thought and action.

Actors Are Actors Moving under Their Own Power

She is a *mover* in the entertainment industry.
Action is absolutely necessary but the president appears to be *paralyzed.*

Action Is Motion by an Actor under His Own Power

She *walked right into* a dismal job.
She *went ahead* and gave her opinion.

States (of Actors) Are Spatial Locations (That Actors Can Be In)

He sees financial security as being *far off in the distance.*
We cannot *return to* former conditions.

Being in a State Is Being in a Spatial Location

He is *in* retirement.

He *left* physics to *go into* medicine at the age of thirty and *stayed there* for the rest of his career.

Change of State (by an Actor) Is Change of Location (by an Actor)

He *came out of* retirement.
He made a *lateral* career *move*.

Impediments to Action Are Impediments to Motion

He's *carrying* too many responsibilities to *get far*.
She started to speak, but his glare *stopped* her.

Goals Are Spatial Locations We Try to Reach

I finally *reached* a solution.
They *stopped short* of their goal.

Forgoing a Goal Is Forgoing a Journey to a Spatial Location

I was *headed toward* a degree in mathematics but then decided that my interests lay in a *different direction*.
She imagined that she wanted to be a lawyer, but when she was *nearly there*, she took a good, hard look at the reality of it and *fled*.

Means to Goals Are Paths to Destinations

No *avenues* have been found to alleviate the suffering.
No one knows how to do this; we need a *trail-blazer*.

Progress toward the Goal Is Movement toward the Destination

We are *getting there*.
I have been *held up* by all I have to do, but I will be *further along* soon.

Quicker Means Are Paths That Can Be Traveled More Quickly

The *quickest way* to get this is to buy it at the store.
Yet I do fear thy nature. / It is too full o' th' milk of human kindness / To catch the nearest *way*. (Lady Macbeth on Macbeth)

Causes of Actions Are Causes of Self-Powered Movement

Ambition *spurred* him to pick up the pace.
The company has ways of making you feel *very uncomfortable* if you *stay in* the same position for long.

The pattern is clear. A little looking will uncover many further projections: Effects of Actions Are Effects of Self-Powered Movement ("The prior accord ended up *trampled*"), Manner of Acting Is Manner of Movement ("He came to the realization *haltingly*"), and so on and on.

ACTORS ARE MANIPULATORS

Self-powered *movement* is one fundamental subcategory of body action. A second fundamental subcategory is literal *manipulation* of physical objects. Manipulation—in this literal sense—can involve grasping, pushing, pulling, shaking, and so on. As infants, we observe that we can reach for an object, grasp it, manipulate it, push it, and shake it. We recognize other objects as intentional actors at least in part on the basis of recognizing them as capable of performing these actions.

One of the most common uses of EVENTS ARE ACTIONS is to project stories of bodily grasping and manipulation onto other action stories. EVENTS ARE ACTIONS thus has a second special subset: ACTORS ARE MANIPULATORS. It is a general projection. Specific projections develop from it. Many of them are common and have become conventional. Several of them were noted as separate items by Lakoff and Johnson. Again, the following list of common projections is meant only to suggest possibilities that arise under this general projection; its elements overlap and imply each other. Again, the examples on this list are not mere figures of speech. They are not specific to language but reveal mental processes of parable that show up in both everyday language and literary language because they are general cognitive patterns of projection. In this case, the projections carry a basic abstract story of manipulation onto a different story of action.

Actors Are Manipulators

He's got his *fingers into* everything.
Hands off my business!

Action Is Grasping

I *took* the opportunity.
I finally *got my hands on that house.*

States Are Physical Objects

He *has* the nomination *in the bag.*
Love is hard to *hold on to.*

Enjoying or Controlling a State Is Grasping the Object

He has a *firm grip* on the situation.
The new contract *took my vacation away* from me.

Change of State Is Change of Grasping

I *had* the game *completely in my grasp* but then I let it *get away from me.*
He *throws* his chances *away.*

Impediments to Action Are Impediments to Grasping

I can't *have* that job.
Bob's already got it *locked up*.

Goals Are Physical Objects One Tries to Grasp

He's headed for the job of news editor and he is going to *get it*, and when he does, no one is going to be able to *take it away from* him.
He tried to *take* the lead.

Forgoing a Goal Is Forgoing Grasping the Object One Wishes to Grasp

Why don't you *put the cruise aside* for a while until you can enjoy it?
She let that chance *go by*.

Means to Goals Are Aids to Grasping

Ask the supervisor to *hold that job* for you until you are free to *take it*.
Persuade the office to *set that trip aside for you* so that no one else will *take it* before you can.

Progress toward the Goal Is Improved Positioning for Grasping

He is *positioning himself* to *snatch* that job *without anybody's noticing*.

Quicker Means Are Quicker Ways of Grasping

He keeps *creeping up* on the topic. I think he should ask his boss directly to *give it to him*.

Causes of Action Are Causes of Manipulating an Object

He was *juggling* too many projects and finally had to *release* some of them *to* other managers.

Again, the pattern is clear. A little looking will uncover many further projections: Effects of Actions Are Effects of Manipulating an Object ("The vice-presidency is *up for grabs* because Juanita *let go* of it"), Manner of Acting Is Manner of Grasping ("He *seized* the opportunity"), and so on and on.

BODY TALK

The most thorough analysis of a special case of ACTORS ARE MANIPULATORS is Michael Reddy's foundational study of how we project the story of manipulating objects onto the story of communicating. In his detailed 1979 inquiry, which established both the original perspective and much of the methodology of later cognitive scientific work on conceptual projection, Reddy demonstrated that a story of communication is routinely understood by projection from a story of body action, specifically manipulation. One person, the speaker, puts a physical object, the meaning, into a container, language, and sends it along a conduit to another

person, the hearer, who then opens the container, language, to extract the object, the meaning, so as to have it—that is, to know it. We say "My head is full of ideas that I am trying to put into words," "He couldn't get his ideas across," "I got a lot out of the book," "I can't extract your meaning," and so on. In all of these cases, action-stories of manipulation are projected onto action-stories of communication.

ACTORS ARE MOVERS AND MANIPULATORS

Self-powered movement overlaps with manipulation of physical objects. To manipulate an object, we often must go to it, move our arm and hand toward it, grasp the object, and manipulate it. Someone who is "going for the football" is usually moving his entire body in the direction of the ball, moving his hands toward the ball, and intending to grab the ball and manipulate it. Movement and manipulation combine naturally in our experience and in our conceptual categorizing of ourselves and other actors.

These two special cases of EVENTS ARE ACTIONS—ACTORS ARE MOVERS and ACTORS ARE MANIPULATORS—are therefore compatible. If we say of a chess match, "Observers thought that white would *take* the draw, but his next move made it clear he was *heading for* a win," we have an example of the overlap of the two special cases. We project physical objects in spatial locations onto *draw* and *win.* We project effort to move in their direction onto trying to obtain them. We project *both* a self-powered mover and a manipulator of physical objects onto the chess player.

This pattern of overlap might be called ACTORS ARE MOVERS AND MANIPULATORS. Since shaking is a particularly energetic kind of manipulating, it is not surprising that highly active and effective actors are colloquially referred to as "movers and shakers."

A THINKER IS A MOVER AND A MANIPULATOR

Eve Sweetser has examined the case in which we project the action-story of movement and manipulation onto the story of thinking. She calls this pattern THE MIND IS A BODY MOVING THROUGH SPACE. Most of it derives from the more general projection ACTORS ARE MOVERS AND MANIPULATORS.

For example, when we wish to tell the action-story of a mathematical or scientific discovery, we can say that the thinker *began from* a certain assumption, was *headed for* a certain conclusion, *stumbled over* difficulties, *moved faster* or *slower* at various times, had to *backtrack* to correct mistakes, *obtained part of* the solution but was still *missing* the most important *part*, had a notion of *where to look for it*, began at last to *see* it, *followed it* as *it eluded* her, finally *got one finger on*

it, felt it slip nearly away, but at last *got it*. Of course, after she has made the discovery, it becomes *hers*. This is a case in which an actor in a nonspatial story of thinking is understood by projection from a spatial action-story of moving and manipulating.

There is a second highly productive scenario of A THINKER IS A MOVER AND A MANIPULATOR in which the body is not moving through space but rather manipulating objects as instruments, tools, or aids to fabrication. When we talk of cognitive "instruments" or conceptual "tools" or of "piecing together a story," we are understanding the action of thought by projection from the body action of manipulation, specifically manipulation for the purpose of manufacture. We may "apply" a principle in the way we "apply" a template. We may "carve" out a theory in the way we "carve" a statue out of wood or stone.

HOMER, DANTE, BUNYAN, SACKS, SAINT JOHN OF THE CROSS, PROUST, POUND

Writers often use A THINKER IS A MOVER AND A MANIPULATOR to create parabolic stories of mental events. Any work presenting a "journey of the soul," such as Bunyan's *Pilgrim's Progress* or Dante's *Divina Commedia*, uses this projection. Some writers blend the parabolic journey of the mind with a detailed travelogue: As Odysseus descends to the underworld, as Marlow journeys deeper down the river into the heart of darkness, or as the various voices of travel in Pound's *Cantos* roam over lands and times, we interpret the travel story as literally spatial for the body of the traveler and parabolic for the mind of the traveler.

In *A Leg to Stand On*, Oliver Sacks tells a story of a mental journey. It takes place aboard a train. When his real train is stuck in a siding, he considers how neurology is stuck: "I withdrew now from musing and gazing as the train pulled into a siding, and returned to Head's *Studies in Neurology*." When Sacks makes a conceptual breakthrough that allows the old neurology to move into a new era, the train takes off: "And now, I realized, after a long hour of stasis, we had emerged from the siding, and we were moving again." Those last four words refer to a blend of three journeys: the literal train journey, the parabolic journey of the discipline of neurology, and Sacks's personal parabolic journey of intellectual discovery.

Some writers are explicit about the parable. Saint John of the Cross, in a poem of eight stanzas titled "En una noche oscura"—commonly translated "The Dark Night of the Soul"—presents the story of his soul's union with God as a story of a journey along the path of spiritual negation. His mind, or soul, is a traveler; the mental process is vertical ascent by the secret ladder; the night is a guide; and spiritual union is a bodily embrace against the breast. Saint John of the Cross wrote hundreds of pages, gathered into two books—*The Ascent of Mount Carmel* and *The Dark Night*—in the form of commentaries explaining explicitly

that the eight stanzas of this poem are a projection of a spatial action-story of movement and manipulation onto a nonspatial story of religious transformation. The commentary in these two books never advances beyond the first line of the third stanza of the poem.

Other writers are less explicit about their use of A THINKER IS A MOVER AND MANIPULATOR. Perhaps the most famous representation of mental events in twentieth-century literature is the opening of Marcel Proust's *À la recherche du temps perdu*, the *ouverture*, in which he describes his experiences of memory and dreaming. In it, Proust repeatedly asks us to project the story of a mover in space onto the story of a thinker. Mental states are physical locations, and a change from one mental state to another is a change of spatial location: "I would bury the whole of my head in the pillow before returning to the world of dreams"; "my mind, striving for hours on end to break away from its moorings, to stretch upwards . . . " To consider memories is to linger in space above or before them and to view them: "And even before my thought, lingering at the doorstep of occasions and shapes, had identified the dwelling together with the events . . . "

At times, he presents the effect of memory on his mind as a story in which an object comes to him, which he then uses as an aid to help *his mind move* from one state to another:

> I was more destitute than the cave-dweller; but then the memory—not yet of the place in which I was, but of various other places where I had lived and might now very possibly be—would come like a rope let down from heaven to draw me up out of the abyss of not-being, from which I could never have escaped by myself; in a flash I would traverse centuries of civilisation. . . .
>
> J'étais plus dénué que l'homme des cavernes; mais alors le souvenir—non encore du lieu où j'étais, mais de quelques-uns de ceux que j'avais habités et où j'aurais pu être—venait à moi comme un secours d'en haut pour me tirer du néant d'où je n'aurais pu sortir tout seul; je passais en une seconde par-dessus des siècles de civilisation. . . .

EVENTS ARE BODY ACTORS

The target story in EVENTS ARE ACTIONS need not be an event performed by an actor. It can be an event without actors, or an event with many indistinct actors, or an event that happens to a human being. Consider, "The recession is coming at me and will hammer me when it gets here; it will beat me to a pulp." Here, the actor in the source story is projected onto the event, the recession. The physical

object that the actor hammers is projected onto the human being. With a slight shift, we can use a source story with several actors and project those actors onto both the recession and the human beings it will affect: "If we can just dodge it long enough, it may weaken, and we may get away unharmed."

EVENTS ARE MOVERS

When the actor in a story of movement is projected onto an event that is not an actor, we have EVENTS ARE MOVERS, a common variety of EVENTS ARE ACTIONS. It includes projections like the following:

Events Are Actors (Moving under Their Own Power) and Occurrence Is Motion (by an Actor under His Own Power)

This recession is an *opponent* whose *progress* we cannot stop.
Time *marches* on.
The recession *crept up* on California and delivered an unexpected wallop.

Once the mover is projected onto the event, the rest of the projections follow: The event can have goals that are spatial locations it tries to reach; means to those goals will be paths to destinations; and so on.

EVENTS ARE MANIPULATORS

When the actor in a story of manipulation is projected onto an event that is not an actor, we have EVENTS ARE MANIPULATORS, a common variety of EVENTS ARE ACTIONS. It includes projections like the following:

Events Are Manipulators and Occurrence Is Manipulation

The recession is *spinning us around.*
The economy is *yanking us left and right.*
The drought is *strangling* us.
The bad weather this season has *picked our pockets.*

Once the mover is projected onto the event, the rest of the projections follow.

EVENTS ARE MOVERS AND MANIPULATORS

We saw that parable can project a mover and manipulator onto any kind of actor. Similarly, parable can project a mover and manipulator onto any kind of event: "The recession *crept up* on us and then *put a chokehold on* the business."

Stories of our interaction with other actors can be projected onto event-stories that include us. Events can help us, hinder us, hurt us. Events can assist someone, give her a boost, throw her into a situation she isn't prepared for. Unemployment can knock somebody flat. Jealousy becomes a green-eyed monster to be confronted, addiction an opponent to be wrestled. The farmer can steal land from the desert, and every summer the desert can try to take it back. The sailor can fight a murderous sea that tries to steal his life and his livelihood.

The most ubiquitous special case of EVENTS ARE MOVERS AND MANIPULATORS is DEATH IS A MOVER AND MANIPULATOR: it comes upon you, and you become a physical object it manipulates. It takes you away, unless, of course, your friend Heracles owes you a favor, which he repays by physically preventing death from reaching you and seizing you and taking you away.

Time, too, can be understood as a mover and manipulator. Time catches up with you, wears you down, races against you, stops you, takes your youth away, your beauty away, your friends away, and your family away. Time may also, of course, be on your side and bring you comfort and success.

PROJECTING SPATIAL STORIES

Action is not the only kind of story. Everywhere we look, we see spatial stories that do not contain animate actors. We see a wall collapse from age, water run downhill, leaves blowing in the wind. These are spatial stories.

They also can be projected. I call the general pattern of their projections EVENTS ARE SPATIAL STORIES. It naturally overlaps with EVENTS ARE ACTIONS to such an extent that they may appear to be identical. But EVENTS ARE ACTIONS can project nonspatial action-stories (like a story of thinking or dreaming or suffering), and EVENTS ARE SPATIAL STORIES can project stories without actors, so neither is entirely contained in the other.

Leonard Talmy showed in a series of papers in the 1970s and 1980s that we frequently project spatial stories—especially force-dynamic stories—onto stories of nonspatial events. Eve Sweetser, in an analysis compatible with Talmy's, considered the special case in which we project spatial stories onto stories of mental events. Some of Talmy's and Sweetser's results are incorporated into the work George Lakoff and I did on EVENTS ARE ACTIONS and into the further analysis of what I call EVENTS ARE SPATIAL STORIES. Some individual facets of EVENTS ARE SPATIAL STORIES were first noticed by George Lakoff and Mark Johnson in 1980. The results summarized below come from many scholars, including, among others, Leonard Talmy, Eve Sweetser, George Lakoff, Mark Johnson, Jane Espenson, and me.

EVENTS ARE SPATIAL STORIES includes all the projections of spatial action-stories we saw in EVENTS ARE ACTIONS, but it also includes projections of spatial

stories without actors. These are exactly the sort of projections Talmy originally analyzed:

Changes Are Spatial Movements

The building has *fallen* into disrepair.
The market *crashed.*

Causes Are Forces

The global slowdown was like mud *forcing* the American economy to stop.

Occurrence Is Motion and Cessation Is Stopping

The drought has been *going on* for a long time, but we hope it will *stop* soon.

Contrary Causality Is Opposing Force

State decree cannot *force* the drought to end, and Federal money won't *stop* the drought, either. Only rain in the Sierra will *put an end* to the drought.

In "The building has fallen into disrepair," a spatial story of *falling* is projected onto the rather different spatial story of roof tiles breaking, paint chipping, and windows cracking. In "The global slowdown pushed the American economy into recession," a spatial story of physical forces on physical objects and the consequent change of their spatial location is projected onto a nonspatial story of economics.

AS TIME GOES BY

Stories take place in time. Stories of change over time can be understood by projection from stories of body action—time becomes a causal mover and manipulator: "Time hath, my lord, a wallet at his back, / wherein he puts alms for Oblivion."

A story of change over time may alternatively be understood by projection from a spatial story without actors. Time is then an object rather than an actor. For example, time might be a river, which moves "current" events along.

We can oscillate back and forth between viewing time as a moving actor and viewing time or specific times as moving objects. Time can be a moving actor with a wallet at his back or a collection of "approaching" hours and "upcoming" minutes. Time can be viewed as moving toward the past ("The days raced by us") or as moving toward the future, either as an actor ("But at my back I always

hear / Time's winged chariot hurrying near," "Time is a runner we cannot outrun") or as an object ("Time keeps on slipping into the future").

In summary, we have considered the following cases where the projected story is spatial:

SOURCE STORY	TARGET STORY	EXAMPLES
Spatial Action	Spatial Action	Someone who intercepts a ball is said to "*take* the ball *away* from the intended receiver."
Spatial Event	Spatial Action	A warrior is said to "rain down" blows upon his enemy.
Spatial Action	Spatial Event	"The sullen wind . . . tore the elm- tops down for spite." Death in *Alcestis*. "Time hath a wallet at his back."
Spatial Event	Spatial Event	The roof tiles have cracked, the paint has chipped, the windows have cracked; we say the house has "*fallen* into disrepair."
Spatial Action	Nonspatial Action	"In solving the equation, he *leapt over* every *obstacle* known to have *stopped* previous mathematicians."
Spatial Event	Nonspatial Action	"His concentration *blotted out* (or *dissipated*) his fears."
		Ezra Pound in the *Cantos* refers to "Mind like a floating white cloud."
Spatial Action	Non-Spatial Event	"The recession *caught up* with the university budget and *flattened it with a single blow*."
Spatial Event	Nonspatial Event	"The economy *sank*."

PROJECTING NONSPATIAL STORIES

In everyday thought, we routinely project spatial stories onto nonspatial stories of social, political, and mental events. When people agree to act as allies, for example, we say they are *aligned*, they *pull together*, they vote *as a bloc*, they *support* each other, they *stand* together. When they conspire to defeat someone, we say they are *arrayed against* him. In these cases, we project spatial stories of force

onto nonspatial stories of social, political, and mental alliance. Similarly, when we conceive of people conspiring by *banding together* to vote *against* someone, thus *forcing him* into defeat, we are projecting a spatial story of force onto a nonspatial story of conspiracy.

But projection can happen multiply, repeatedly, and recursively. A nonspatial story that was the target of projection from a spatial story can in turn serve as the nonspatial source story for a further projection. In that second projection, the source is nonspatial (although the original spatial source story stands behind it). For example, conspiring to defeat someone is a nonspatial story; it can serve as a source to be projected onto other stories. We can say, for example, that the national economies are *conspiring against* a global recovery. A source spatial story of forces was originally projected onto a target nonspatial story of conspiracy; the nonspatial story of conspiracy is then the source projected onto a target nonspatial story of global economics.

Forces combining reinforcingly → Conspiring against
Conspiring against → Economics

In sum, the force-dynamic image schemas originally projected to the story of *conspiring against* are in turn projected to the story of *economics.*

Although multiple projections may seem on analysis to be complicated and to require a kind of algebra of the mind, it is only their analysis that gives us difficulty, not their occurrence in thought. When Hamlet says, "How all occasions do inform against me," modern readers sometimes interpret him as portraying "occasions" as "informers." They project a social action story of informing onto occasions, making them informers. But it is also the case that a spatial action-story is projected onto informing so that it can be "against."

Body Action	→	Social Action
(Exerting Force Against)		(Informing)
		Social Action → Events
		(Informing) (All Occasions)

Multiple projections of this sort are nearly trivial for us, since they arise from common procedures of everyday thought. Hamlet's phrase is not a puzzle to these modern readers, but rather a particularly lucid and compelling expression.

Multiple projection often arises when body action is projected onto mental action (A THINKER IS A MOVER AND A MANIPULATOR) and the mental action is then projected to an event-story. If someone observes, "The sky has been thinking about raining all day, and now it looks as if it's finally getting around to it," we have a projection of the spatial story of movement (*getting around to it*) onto

the nonspatial story of mental action (*deciding*) and we have additionally a projection of the nonspatial story of mental action (*deciding*) onto the spatial story of an event without actors (*raining*). Through concatenated projection, the sky becomes a thinking actor, and its thinking is understood as a spatial *getting around to* deciding to rain, even though it is possible that we have not seen a single thing move in the sky all day.

EVIDENCE AND LIMITS

It might seem plausible to abstract from these analyses a general claim: Nonspatial stories and their further projections are always grounded in spatial and bodily stories. The extreme form of this claim is that abstract thought and reasoning are always grounded, through a kind of archeology of the mind, in spatial and bodily stories. Although not clearly false, this claim is too extreme for the available evidence.

We may say comfortably that our understanding of spatial and bodily stories is so rich, and our powers of parable so developed, that imagination can project spatial and bodily stories at will to any point of the conceptual compass. We may also say comfortably that for many abstract concepts, the spatial and bodily instances are the archetypes. Everyday thought contains conventional projections of spatial and bodily stories onto stories of society and mind and onto abstract reasoning. Their traces are routinely carried in language. Preliminary models are beginning to take shape of how the brain might develop both perceptual and conceptual categories of spatial and bodily stories. No equally specific preliminary models are at hand of how the brain might develop categories of stories of society and mind that are independent of the categories of spatial and bodily stories. These facts make it plausible that our understanding of social, mental, and abstract domains is formed on our understanding of spatial and bodily stories. But plausibility is the most we can assert on this evidence.

It is impressive and remarkable that we can always project from spatial and bodily stories onto social, mental, and abstract stories. It is equally impressive and remarkable that conversation about social, mental, and abstract stories will almost always elicit spatial and bodily projections ("He is *cracking up*," "I *let go* of that option a long time ago"). In contrast, conversation about spatial and bodily stories ("The house paint is flaking") may extend indefinitely without ever eliciting projections from social, mental, or abstract stories.

And yet no one ever has any difficulty projecting social, mental, or abstract stories onto spatial and bodily stories. We can say easily that the flaking paint is "losing its nerve" in the face of the storm; that our lunch is "disagreeing" with our stomach; that the floorboards are "conspiring" to break free of the under-

flooring. Nonetheless, these expressions seem less idiomatic than those based in spatial and bodily stories.

Given our robust capacity to project from stories of society or the mind, how would we know whether spatial and bodily stories are always basic to understanding? This appears to be one of the profoundly tantalizing and difficult open questions in the study of the mind.

THE STORY OF BIRTH

The story of birth is complex, universal, and familiar. It is found at the core of both secular and holy literature. It is a spatial story in which one physical body comes out of another. It is equally a spatial story of action in which the mother is an intentional actor. It is also a biological if not spatial story in which mother and father are biological causes. Birth, or more accurately, progeneration, is a story with several acts, from conception through gestation to birth. Extra acts are often added: courtship, nurturing, bonding, early development.

Various parts of the story of birth are structured by spatial image schemas. The first image schema in the story of birth is *one thing coming out of another.* The mother is conceived of as a *container* that has a body inside it. The interior body exits, creating two distinct bodies where only one existed before. The second image schema is *an object emerging from its source material.* The mother's body is conceived of as a biological source material; the child emerges from it. A third image schema is *motion along a path from a source to a goal.* The child, at birth, departs its point of origin along a bodily way to a point outside the mother's body. A fourth is *link*: The spatial path from mother to child is statically realized in the form of an umbilical cord, which is understood as an asymmetric spatial link between mother and child. A fifth is *spatial growth:* The body that is interior to the mother-container begins from next to nothing, and grows, forcing its mother-container to become convex.

The extraordinary richness of the story of birth has made it perhaps the premier example of a familiar and powerful story that is projected onto other stories. Stories of progeneration are often projected onto causal stories, in accord with the invariance principle. We may speak of a "brainchild" or say, "Necessity is the mother of invention." We may say, with Wallace Stevens, "The moon is the mother of pathos and pity," or simply, "Ignorance is the mother of suspicion." We may say, "Italian is the eldest daughter of Latin." This range of causal projections is to be expected: the story of birth happens to include a set of image schemas that are, quite independently of the story of birth itself, routinely projected to causation. It is easy to think of nonbirth sources for "The tax cut *came out of* desperation," "His ambitions *emerge* directly *from* his greed," "One thing

led to another," "Health is *linked* to diet," and "The problem is *growing*." These image schemas associated with causation are all contained in the story of birth and combined there in a coherent manner. This convenient combination makes the story of birth highly useful in thinking about causation. The story of birth moreover has an additional feature useful in thinking about causation—*inheritance*. We say that a figurine "inherits" its shape from the mold or that a computer program "inherits" its slowness from the language in which it is written.

In *Death Is the Mother of Beauty*, I listed the ways in which we routinely project stories of birth onto other stories, in everyday language and elite literary texts. Milton presents the story of the origin of Satan, Sin, and Death as a primordial history in which Sin—Satan's daughter—springs from his brow. Satan later fathers a son, Death, incestuously upon his daughter Sin. Gower adds to this odd family extra offspring—the vices. The Bible and therefore Gower and Milton all present the curse on humanity as a story of progeneration and inheritance: We all inherit the curse from Adam and Eve. Blake explains human psychology and emotions through an elaborate and exquisite story of a family tree. Spenser explains human psychological dispositions through stories of births. Hesiod's history of the cosmos, like nearly all early cosmogonies, is a story of progenerations. The list of such texts is long.

In *Death Is the Mother of Beauty*, I discussed constraints—later generalized into the invariance principle—on the projection of progeneration. A parent and a child have a spatial distinction and an aspectual duration over time, and this structure can be projected onto only those stories that can have compatible image-schematic structure. For example, given default conceptions of basketball or baseball, it would be infelicitous to say that a woman basketball player was the mother of the basket she just sank or that a baseball player was the father of the home run he just hit. These events are not thought of as having a suitable aspectual duration. Betsy Ross, however, could be called the mother of the American flag.

A mother and a child are also thought of as acquiring high spatial distinction at birth. If we watch a cloud as it shifts nearly imperceptibly into a slightly different shape and are asked to project the story of birth onto the story of the cloud, it would take considerable invention to do so in a way that projected this distinction between parent and child.

The spatial distinction between mother and child is also thought of as arising in a manner that is relatively singular and punctual. The moment of birth is distinguished from what comes before and what comes after. If the shifting of the cloud appears continuous, with no points of singularity, it would be even more difficult to project the story of birth onto it.

In these and a variety of related ways, parable is constrained: Not just anything can be projected in just any way. We have choice in our conception of the

source, in our conception of the target, and in what is to be projected from one to the other. We are constrained to line these choices up so as to avoid an image-schematic clash in the target.

We are free to project image-schematic structure onto the target where the target is indeterminate. If we wish to convey a causal link between A and B where the relation between A and B is indeterminate, we may say, "B is the child of A." We may say, "Violence is the child of fear," or we may claim with Blake that ignorance is the child of sloth. In these cases, we do not violate image-schematic structure in the target, but we do create new image-schematic structure there.

An expression like "Italian is the daughter of Latin" raises no objection because projecting onto Latin and Italian the causal progenerative link between mother and daughter is compatible with our conception of the historical relationship of these languages. But if someone says, "Italian is the mother of Latin," and we project *causal link* from the source story of birth, it will take extraordinary invention to find a way in which something we can refer to as "Italian" can be viewed as causally prior to something we can refer to as "Latin." Stretching our imaginations, we might come to consider that the study of Italian can lead to the study of Latin, so that *learning Italian* can be the mother of *learning Latin*. Had we failed to locate this causal connection from "Italian" to "Latin," we would have been obliged to backtrack to reconsider how some other, noncausal structure could be projected from the story of birth onto the story of Latin and Italian so as to arrive at a meaning that could plausibly have been suggested by "Italian is the mother of Latin." The boundaries of our invention in conceiving the source, conceiving the target, and projecting from one to the other are governed by the invariance principle: we are constrained to avoid creating an image-schematic clash in the target.

The story of birth involves inheritance of physical attributes and character traits. We project these stories of inheritance parabolically onto stories of how features came to exist. We say, "Italian inherits many things from Latin, including vocabulary and gender."

We can conceive of members of a family as sharing attributes and traits: not every member of a family shares a given attribute or trait, but attributes and traits run through families according to the intricate logic of inheritance. We commonly project this logic onto other stories. We call someone a "child of the Age of Reason" to imply that he shares features with his personified parent. When we describe someone as "a child of Nature," "a child of the modern age," or "a daughter of the hills," we are projecting *inheritance* from the story of progeneration onto stories having nothing to do with progeneration.

These projections take literary form only because the everyday mind is fundamentally literary. We can see the continuity between everyday thought and

literary thought by looking at expressions of popular culture, like the following. In January 1993, a major computer corporation launched an intensive advertisement campaign for a new laptop computer. Ads for the laptop appeared in many markets and in many media. An airline passenger might have opened Delta's glossy in-flight magazine to a slick two-page ad for the machine. In-flight magazines are designed, of course, to appeal to thousands of potential customers from all social stations, many of whom have never read a poem except at the point of a pedagogical gun, and even then hated it. In-flight magazines hawk cologne, cruises, air cleaners, anti-wrinkle suitbags, nightlife in Vegas, medicines to restore hair or prevent it from falling out, gift notions, personalized mailing labels, lingerie, ingenious labor-saving devices for every imaginable pointless activity in the home or the office, alcohol, retirement communities, and an eerie assortment of richly vulgar and sometimes hysterically colored consumer items. The advertisement in this in-flight magazine carries a picture of the laptop in the center, and underneath, in large type,

> Its mother was a mainframe.
> Its father was a Maserati.

Everyone, of course, understands immediately that the laptop is being described as having the power and range we associate with a mainframe computer, and the sleek design, speed, and excitement we associate with a Maserati racing car. The laptop *inherits* these attributes. The logic of inheritance as part of the story of birth is so routinely projected onto other stories that it has its own conventional joke construction: "What do you get when you cross a such-and-such with a so-and-so?" In most instances of this construction, such-and-such and so-and-so are not reproductive organisms, and when they are, they usually do not mate naturally. Milton uses the projection of inheritance onto theology when he conceives of Sin as inheriting what he imagines to be the "feminine" aspects of Satan (beauty, seduction, persuasion, blandishment) and of Death as inheriting what he imagines to be the "masculine" aspects of Satan (direct power, absolute courage, arrogance, violence, strength). Later, when Satan intends to exit the gates of Hell, which are guarded by Sin and Death, Sin with honeyed speech endeavors to dissuade him, while Death laconically threatens to destroy him.

The ad copy for the laptop widens the story of progeneration to include genetics and evolution. Its opening sentence reads, "As they say, it's all in the genes." The laptop's button for moving a pointer on the screen is described as doing "what a mouse would do with a few million more years of evolution." We are asked to project a detailed story of progeneration onto an extraordinarily complex story of technological development.

The ad for the laptop evokes inherited attributes quite unlike those Milton found useful. The slick, sleek Maserati, powerful and mobile, unbelievably quick, welcome everywhere but never tied down, driven by its driver and responsive to its driver's every wish, is, in this parable, a father who passes these attributes by inheritance to the laptop. The ad wants you to understand that the laptop gets around and takes you with it: it "begs you to take it anywhere. And once you own one, that's exactly what you'll do." It "blows the doors off its competition." It "sports a screaming 486 processor," but "it's built for comfort too." Its button for moving the pointer is described as the "world's smallest stick shift."

The awesome mainframe, conceived of as a machine of great potential and scope, can be understood as a *mother* who passes these attributes on to her laptop-offspring. These may be more common associations of *mother* than one might think. They help to explain the aptness of expressions such as "mother lode" and "motherboard." Saddam Hussein of Iraq made a statement before the Gulf War that was translated as a threat to the allied forces: if they attacked Iraq, they would suffer "the mother of all battles." Although there was considerable confusion over how to interpret this threat, many Americans understood *mother* in this phrase as connoting tremendous power and potential, something not to be trifled with. That a mainframe might be thought of as a mother seems appropriate for any number of reasons. This particular electronic mother passes her power and potential to her offspring, the laptop, by inheritance.

The corporation that made the new laptop risked its image, the success of its new product, and an immense amount of money on the expectation that everyday readers of this ad would understand a detailed and complicated projection, carrying a robust story of birth parabolically onto a sophisticated story of computer research and development. For the ad to be effective, its readers would have to understand this projection instantly and recognize it as singularly apt. The corporation gambled that parable is a fundamental human cognitive capacity, universal, powerful, and familiar. Of course, as we have seen by now, this is no gamble at all.