the mind? Where do our notions of mind come from if not from metaphors generated by our tools? What does it mean to say that someone has an IQ of 126? There are no numbers in people's heads. Intelligence does not have quantity or magnitude, except as we believe that it does. And why do we believe that it does? Because we have tools that imply that this is what the mind is like. Indeed, our tools for thought suggest to us what our bodies are like, as when someone refers to her "biological clock," or when we talk of our "genetic codes," or when we read someone's face like a book, or when our facial expressions telegraph our intentions.

When Galileo remarked that the language of nature is written in mathematics, he meant it only as a metaphor. Nature itself does not speak. Neither do our minds or our bodies or, more to the point of this book, our bodies politic. Our conversations about nature and about ourselves are conducted in whatever "languages" we find it possible and convenient to employ. We do not see nature or intelligence or human motivation or ideology as "it" is but only as our languages are. And our languages are our media. Our media are our metaphors. Our metaphors create the content of our culture.

2.

Media as Epistemology

It is my intention in this book to show that a great media-metaphor shift has taken place in America, with the result that the content of much of our public discourse has become dangerous nonsense. With this in view, my task in the chapters ahead is straightforward. I must, first, demonstrate how, under the governance of the printing press, discourse in America was different from what it is now—generally coherent, serious and rational; and then how, under the governance of television, it has become shriveled and absurd. But to avoid the possibility that my analysis will be interpreted as standard-brand academic whimpering, a kind of elitist complaint against "junk" on television, I must first explain that my focus is on epistemology, not on aesthetics or literary criticism. Indeed, I appreciate junk as much as the next fellow, and I know full well that the printing press has generated enough of it to fill the Grand Canyon to overflowing. Television is not old enough to have matched printing's output of junk.

And so, I raise no objection to television's junk. The best things on television *are* its junk, and no one and nothing is seriously threatened by it. Besides, we do not measure a culture by its output of undisguised trivialities but by what it claims as significant. Therein is our problem, for television is at its most trivial and, therefore, most dangerous when its aspirations are high, when it presents itself as a carrier of important cultural conversations. The irony here is that this is what intellectuals and critics are constantly urging television to do. The trouble

with such people is that they do not take television seriously enough. For, like the printing press, television is nothing less than a philosophy of rhetoric. To talk seriously about television, one must therefore talk of epistemology. All other commentary is in itself trivial.

Epistemology is a complex and usually opaque subject concerned with the origins and nature of knowledge. The part of its subject matter that is relevant here is the interest it takes in definitions of truth and the sources from which such definitions come. In particular, I want to show that definitions of truth are derived, at least in part, from the character of the media of communication through which information is conveyed. I want to discuss how media are implicated in our epistemologies.

In the hope of simplifying what I mean by the title of this chapter, media as epistemology, I find it helpful to borrow a word from Northrop Frye, who has made use of a principle he calls *resonance*. "Through resonance," he writes, "a particular statement in a particular context acquires a universal significance."[1] Frye offers as an opening example the phrase "the grapes of wrath," which first appears in Isaiah in the context of a celebration of a prospective massacre of Edomites. But the phrase, Frye continues, "has long ago flown away from this context into many new contexts, contexts that give dignity to the human situation instead of merely reflecting its bigotries."[2] Having said this, Frye extends the idea of resonance so that it goes beyond phrases and sentences. A character in a play or story—Hamlet, for example, or Lewis Carroll's Alice—may have resonance. Objects may have resonance, and so may countries: "The smallest details of the geography of two tiny chopped-up countries, Greece and Israel, have imposed themselves on our consciousness until they have become part of the map of our own imaginative world, whether we have ever seen these countries or not."[3]

In addressing the question of the source of resonance, Frye concludes that metaphor is the generative force—that is, the

power of a phrase, a book, a character, or a history to unify and invest with meaning a variety of attitudes or experiences. Thus, Athens becomes a metaphor of intellectual excellence, wherever we find it; Hamlet, a metaphor of brooding indecisiveness; Alice's wanderings, a metaphor of a search for order in a world of semantic nonsense.

I now depart from Frye (who, I am certain, would raise no objection) but I take his word along with me. Every medium of communication, I am claiming, has resonance, for resonance is metaphor writ large. Whatever the original and limited context of its use may have been, a medium has the power to fly far beyond that context into new and unexpected ones. Because of the way it directs us to organize our minds and integrate our experience of the world, it imposes itself on our consciousness and social institutions in myriad forms. It sometimes has the power to become implicated in our concepts of piety, or goodness, or beauty. And it is always implicated in the ways we define and regulate our ideas of truth.

To explain how this happens—how the bias of a medium sits heavy, felt but unseen, over a culture—I offer three cases of truth-telling.

The first is drawn from a tribe in western Africa that has no writing system but whose rich oral tradition has given form to its ideas of civil law.[4] When a dispute arises, the complainants come before the chief of the tribe and state their grievances. With no written law to guide him, the task of the chief is to search through his vast repertoire of proverbs and sayings to find one that suits the situation and is equally satisfying to both complainants. That accomplished, all parties are agreed that justice has been done, that the truth has been served. You will recognize, of course, that this was largely the method of Jesus and other Biblical figures who, living in an essentially oral culture, drew upon all of the resources of speech, including mnemonic devices, formulaic expressions and parables, as a means of discovering and revealing truth. As Walter Ong points out, in

oral cultures proverbs and sayings are not occasional devices: "They are incessant. They form the substance of thought itself. Thought in any extended form is impossible without them, for it consists in them."[5]

To people like ourselves any reliance on proverbs and sayings is reserved largely for resolving disputes among or with children. "Possession is nine-tenths of the law." "First come, first served." "Haste makes waste." These are forms of speech we pull out in small crises with our young but would think ridiculous to produce in a courtroom where "serious" matters are to be decided. Can you imagine a bailiff asking a jury if it has reached a decision and receiving the reply that "to err is human but to forgive is divine"? Or even better, "Let us render unto Caesar that which is Caesar's and to God that which is God's"? For the briefest moment, the judge might be charmed but if a "serious" language form is not immediately forthcoming, the jury may end up with a longer sentence than most guilty defendants.

Judges, lawyers and defendants do not regard proverbs or sayings as a relevant response to legal disputes. In this, they are separated from the tribal chief by a media-metaphor. For in a print-based courtroom, where law books, briefs, citations and other written materials define and organize the method of finding the truth, the oral tradition has lost much of its resonance—but not all of it. Testimony is expected to be given orally, on the assumption that the spoken, not the written, word is a truer reflection of the state of mind of a witness. Indeed, in many courtrooms jurors are not permitted to take notes, nor are they given written copies of the judge's explanation of the law. Jurors are expected to *hear* the truth, or its opposite, not to read it. Thus, we may say that there is a clash of resonances in our concept of legal truth. On the one hand, there is a residual belief in the power of speech, and speech alone, to carry the truth; on the other hand, there is a much stronger belief in the authenticity of writing and, in particular, printing. This second belief

has little tolerance for poetry, proverbs, sayings, parables or any other expressions of oral wisdom. The law is what legislators and judges have written. In our culture, lawyers do not have to be wise; they need to be well briefed.

A similar paradox exists in universities, and with roughly the same distribution of resonances; that is to say, there are a few residual traditions based on the notion that speech is the primary carrier of truth. But for the most part, university conceptions of truth are tightly bound to the structure and logic of the printed word. To exemplify this point, I draw here on a personal experience that occurred during a still widely practiced medieval ritual known as a "doctoral oral." I use the word *medieval* literally, for in the Middle Ages students were always examined orally, and the tradition is carried forward in the assumption that a candidate must be able to talk competently about his written work. But, of course, the written work matters most.

In the case I have in mind, the issue of what is a legitimate form of truth-telling was raised to a level of consciousness rarely achieved. The candidate had included in his thesis a footnote, intended as documentation of a quotation, which read: "Told to the investigator at the Roosevelt Hotel on January 18, 1981, in the presence of Arthur Lingeman and Jerrold Gross." This citation drew the attention of no fewer than four of the five oral examiners, all of whom observed that it was hardly suitable as a form of documentation and that it ought to be replaced by a citation from a book or article. "You are not a journalist," one professor remarked. "You are supposed to be a scholar." Perhaps because the candidate knew of no published statement of what he was told at the Roosevelt Hotel, he defended himself vigorously on the grounds that there were witnesses to what he was told, that they were available to attest to the accuracy of the quotation, and that the form in which an idea is conveyed is irrelevant to its truth. Carried away on the wings of his eloquence, the candidate argued further that there were more than three hundred references to published works in his thesis and

that it was extremely unlikely that any of them would be checked for accuracy by the examiners, by which he meant to raise the question, Why do you *assume* the accuracy of a print-referenced citation but not a speech-referenced one?

The answer he received took the following line: You are mistaken in believing that the form in which an idea is conveyed is irrelevant to its truth. In the academic world, the published word is invested with greater prestige and authenticity than the spoken word. What people say is assumed to be more casually uttered than what they write. The written word is assumed to have been reflected upon and revised by its author, reviewed by authorities and editors. It is easier to verify or refute, and it is invested with an impersonal and objective character, which is why, no doubt, you have referred to yourself in your thesis as "the investigator" and not by your name; that is to say, the written word is, by its nature, addressed to the world, not an individual. The written word endures, the spoken word disappears; and that is why writing is closer to the truth than speaking. Moreover, we are sure you would prefer that this commission produce a written statement that you have passed your examination (should you do so) than for us merely to tell you that you have, and leave it at that. Our written statement would represent the "truth." Our oral agreement would be only a rumor.

The candidate wisely said no more on the matter except to indicate that he would make whatever changes the commission suggested and that he profoundly wished that should he pass the "oral," a written document would attest to that fact. He did pass, and in time the proper words were written.

A third example of the influence of media on our epistemologies can be drawn from the trial of the great Socrates. At the opening of Socrates' defense, addressing a jury of five hundred, he apologizes for not having a well-prepared speech. He tells his Athenian brothers that he will falter, begs that they not interrupt him on that account, asks that they regard him as they

would a stranger from another city, and promises that he will tell them the truth, without adornment or eloquence. Beginning this way was, of course, characteristic of Socrates, but it was not characteristic of the age in which he lived. For, as Socrates knew full well, his Athenian brothers did not regard the principles of rhetoric and the expression of truth to be independent of each other. People like ourselves find great appeal in Socrates' plea because we are accustomed to thinking of rhetoric as an ornament of speech—most often pretentious, superficial and unnecessary. But to the people who invented it, the Sophists of fifth-century B.C. Greece and their heirs, rhetoric was not merely an opportunity for dramatic performance but a near indispensable means of organizing evidence and proofs, and therefore of communicating truth.[6]

It was not only a key element in the education of Athenians (far more important than philosophy) but a preeminent art form. To the Greeks, rhetoric was a form of spoken writing. Though it always implied oral performance, its power to reveal the truth resided in the written word's power to display arguments in orderly progression. Although Plato himself disputed this conception of truth (as we might guess from Socrates' plea), his contemporaries believed that rhetoric was the proper means through which "right opinion" was to be both discovered and articulated. To disdain rhetorical rules, to speak one's thoughts in a random manner, without proper emphasis or appropriate passion, was considered demeaning to the audience's intelligence and suggestive of falsehood. Thus, we can assume that many of the 280 jurors who cast a guilty ballot against Socrates did so because his manner was not consistent with truthful matter, as they understood the connection.

The point I am leading to by this and the previous examples is that the concept of truth is intimately linked to the biases of forms of expression. Truth does not, and never has, come unadorned. It must appear in its proper clothing or it is not acknowledged, which is a way of saying that the "truth" is a kind

of cultural prejudice. Each culture conceives of it as being most authentically expressed in certain symbolic forms that another culture may regard as trivial or irrelevant. Indeed, to the Greeks of Aristotle's time, and for two thousand years afterward, scientific truth was best discovered and expressed by deducing the nature of things from a set of self-evident premises, which accounts for Aristotle's believing that women have fewer teeth than men, and that babies are healthier if conceived when the wind is in the north. Aristotle was twice married but so far as we know, it did not occur to him to ask either of his wives if he could count her teeth. And as for his obstetric opinions, we are safe in assuming he used no questionnaires and hid behind no curtains. Such acts would have seemed to him both vulgar and unnecessary, for that was not the way to ascertain the truth of things. The language of deductive logic provided a surer road.

We must not be too hasty in mocking Aristotle's prejudices. We have enough of our own, as for example, the equation we moderns make of truth and quantification. In this prejudice, we come astonishingly close to the mystical beliefs of Pythagoras and his followers who attempted to submit all of life to the sovereignty of numbers. Many of our psychologists, sociologists, economists and other latter-day cabalists will have numbers to tell them the truth or they will have nothing. Can you imagine, for example, a modern economist articulating truths about our standard of living by reciting a poem? Or by telling what happened to him during a late-night walk through East St. Louis? Or by offering a series of proverbs and parables, beginning with the saying about a rich man, a camel, and the eye of a needle? The first would be regarded as irrelevant, the second merely anecdotal, the last childish. Yet these forms of language are certainly capable of expressing truths about economic relationships, as well as any other relationships, and indeed have been employed by various peoples. But to the modern mind, resonating with different media-metaphors, the truth in economics is believed to be best discovered and expressed in numbers. Per-

haps it is. I will not argue the point. I mean only to call attention to the fact that there is a certain measure of arbitrariness in the forms that truth-telling may take. We must remember that Galileo merely said that the language of *nature* is written in mathematics. He did not say *everything* is. And even the truth about nature need not be expressed in mathematics. For most of human history, the language of nature has been the language of myth and ritual. These forms, one might add, had the virtues of leaving nature unthreatened and of encouraging the belief that human beings are part of it. It hardly befits a people who stand ready to blow up the planet to praise themselves too vigorously for having found the true way to talk about nature.

In saying this, I am not making a case for epistemological relativism. Some ways of truth-telling are better than others, and therefore have a healthier influence on the cultures that adopt them. Indeed, I hope to persuade you that the decline of a print-based epistemology and the accompanying rise of a television-based epistemology has had grave consequences for public life, that we are getting sillier by the minute. And that is why it is necessary for me to drive hard the point that the weight assigned to any form of truth-telling is a function of the influence of media of communication. "Seeing is believing" has always had a preeminent status as an epistemological axiom, but "saying is believing," "reading is believing," "counting is believing," "deducing is believing," and "feeling is believing" are others that have risen or fallen in importance as cultures have undergone media change. As a culture moves from orality to writing to printing to televising, its ideas of truth move with it. Every philosophy is the philosophy of a stage of life, Nietzsche remarked. To which we might add that every epistemology is the epistemology of a stage of media development. Truth, like time itself, is a product of a conversation man has with himself about and through the techniques of communication he has invented.

Since intelligence is primarily defined as one's capacity to

grasp the truth of things, it follows that what a culture means by intelligence is derived from the character of its important forms of communication. In a purely oral culture, intelligence is often associated with aphoristic ingenuity, that is, the power to invent compact sayings of wide applicability. The wise Solomon, we are told in First Kings, knew three thousand proverbs. In a print culture, people with such a talent are thought to be quaint at best, more likely pompous bores. In a purely oral culture, a high value is always placed on the power to memorize, for where there are no written words, the human mind must function as a mobile library. To forget how something is to be said or done is a danger to the community and a gross form of stupidity. In a print culture, the memorization of a poem, a menu, a law or most anything else is merely charming. It is almost always functionally irrelevant and certainly not considered a sign of high intelligence.

Although the general character of print-intelligence would be known to anyone who would be reading this book, you may arrive at a reasonably detailed definition of it by simply considering what is demanded of you *as you read this book.* You are required, first of all, to remain more or less immobile for a fairly long time. If you cannot do this (with this or any other book), our culture may label you as anything from hyperkinetic to undisciplined; in any case, as suffering from some sort of intellectual deficiency. The printing press makes rather stringent demands on our bodies as well as our minds. Controlling your body is, however, only a minimal requirement. You must also have learned to pay no attention to the shapes of the letters on the page. You must see through them, so to speak, so that you can go directly to the meanings of the words they form. If you are preoccupied with the shapes of the letters, you will be an intolerably inefficient reader, likely to be thought stupid. If you have learned how to get to meanings without aesthetic distraction, you are required to assume an attitude of detachment and objectivity. This includes your bringing to the task what

Bertrand Russell called an "immunity to eloquence," meaning that you are able to distinguish between the sensuous pleasure, or charm, or ingratiating tone (if such there be) of the words, and the logic of their argument. But at the same time, you must be able to tell from the tone of the language what is the author's attitude toward the subject and toward the reader. You must, in other words, know the difference between a joke and an argument. And in judging the quality of an argument, you must be able to do several things at once, including delaying a verdict until the entire argument is finished, holding in mind questions until you have determined where, when or if the text answers them, and bringing to bear on the text all of your relevant experience as a counterargument to what is being proposed. You must also be able to withhold those parts of your knowledge and experience which, in fact, do not have a bearing on the argument. And in preparing yourself to do all of this, you must have divested yourself of the belief that words are magical and, above all, have learned to negotiate the world of abstractions, for there are very few phrases and sentences in this book that require you to call forth concrete images. In a print-culture, we are apt to say of people who are not intelligent that we must "draw them pictures" so that they may understand. Intelligence implies that one can dwell comfortably without pictures, in a field of concepts and generalizations.

To be able to do all of these things, and more, constitutes a primary definition of intelligence in a culture whose notions of truth are organized around the printed word. In the next two chapters I want to show that in the eighteenth and nineteenth centuries, America was such a place, perhaps the most print-oriented culture ever to have existed. In subsequent chapters, I want to show that in the twentieth century, our notions of truth and our ideas of intelligence have changed as a result of new media displacing the old.

But I do not wish to oversimplify the matter more than is necessary. In particular, I want to conclude by making three

points that may serve as a defense against certain counterarguments that careful readers may have already formed.

The first is that at no point do I care to claim that changes in media bring about changes in the structure of people's minds or changes in their cognitive capacities. There are some who make this claim, or come close to it (for example, Jerome Bruner, Jack Goody, Walter Ong, Marshall McLuhan, Julian Jaynes, and Eric Havelock).[7] I am inclined to think they are right, but my argument does not require it. Therefore, I will not burden myself with arguing the possibility, for example, that oral people are less developed intellectually, in some Piagetian sense, than writing people, or that "television" people are less developed intellectually than either. My argument is limited to saying that a major new medium changes the structure of discourse; it does so by encouraging certain uses of the intellect, by favoring certain definitions of intelligence and wisdom, and by demanding a certain kind of content—in a phrase, by creating new forms of truth-telling. I will say once again that I am no relativist in this matter, and that I believe the epistemology created by television not only is inferior to a print-based epistemology but is dangerous and absurdist.

The second point is that the epistemological shift I have intimated, and will describe in detail, has not yet included (and perhaps never will include) everyone and everything. While some old media do, in fact, disappear (e.g., pictographic writing and illuminated manuscripts) and with them, the institutions and cognitive habits they favored, other forms of conversation will always remain. Speech, for example, and writing. Thus the epistemology of new forms such as television does not have an entirely unchallenged influence.

I find it useful to think of the situation in this way: Changes in the symbolic environment are like changes in the natural environment; they are both gradual and additive at first, and then, all at once, a critical mass is achieved, as the physicists say. A river that has slowly been polluted suddenly becomes

toxic; most of the fish perish; swimming becomes a danger to health. But even then, the river may look the same and one may still take a boat ride on it. In other words, even when life has been taken from it, the river does not disappear, nor do all of its uses, but its value has been seriously diminished and its degraded condition will have harmful effects throughout the landscape. It is this way with our symbolic environment. We have reached, I believe, a critical mass in that electronic media have decisively and irreversibly changed the character of our symbolic environment. We are now a culture whose information, ideas and epistemology are given form by television, not by the printed word. To be sure, there are still readers and there are many books published, but the uses of print and reading are not the same as they once were; not even in schools, the last institutions where print was thought to be invincible. They delude themselves who believe that television and print coexist, for coexistence implies parity. There is no parity here. Print is now merely a residual epistemology, and it will remain so, aided to some extent by the computer, and newspapers and magazines that are made to look like television screens. Like the fish who survive a toxic river and the boatmen who sail on it, there still dwell among us those whose sense of things is largely influenced by older and clearer waters.

The third point is that in the analogy I have drawn above, the river refers largely to what we call public discourse—our political, religious, informational and commercial forms of conversation. I am arguing that a television-based epistemology pollutes public communication and its surrounding landscape, not that it pollutes everything. In the first place, I am constantly reminded of television's value as a source of comfort and pleasure to the elderly, the infirm and, indeed, all people who find themselves alone in motel rooms. I am also aware of television's potential for creating a theater for the masses (a subject which in my opinion has not been taken seriously enough). There are also claims that whatever power television might have to un-

dermine rational discourse, its emotional power is so great that it could arouse sentiment against the Vietnam War or against more virulent forms of racism. These and other beneficial possibilities are not to be taken lightly.

But there is still another reason why I should not like to be understood as making a total assault on television. Anyone who is even slightly familiar with the history of communications knows that every new technology for thinking involves a trade-off. It giveth and taketh away, although not quite in equal measure. Media change does not necessarily result in equilibrium. It sometimes creates more than it destroys. Sometimes, it is the other way around. We must be careful in praising or condemning because the future may hold surprises for us. The invention of the printing press itself is a paradigmatic example. Typography fostered the modern idea of individuality, but it destroyed the medieval sense of community and integration. Typography created prose but made poetry into an exotic and elitist form of expression. Typography made modern science possible but transformed religious sensibility into mere superstition. Typography assisted in the growth of the nation-state but thereby made patriotism into a sordid if not lethal emotion.

Obviously, my point of view is that the four-hundred-year imperial dominance of typography was of far greater benefit than deficit. Most of our modern ideas about the uses of the intellect were formed by the printed word, as were our ideas about education, knowledge, truth and information. I will try to demonstrate that as typography moves to the periphery of our culture and television takes its place at the center, the seriousness, clarity and, above all, value of public discourse dangerously declines. On what benefits may come from other directions, one must keep an open mind.

3.

Typographic America

In the *Autobiography of Benjamin Franklin,* there appears a remarkable quotation attributed to Michael Welfare, one of the founders of a religious sect known as the Dunkers and a longtime acquaintance of Franklin. The statement had its origins in Welfare's complaint to Franklin that zealots of other religious persuasions were spreading lies about the Dunkers, accusing them of abominable principles to which, in fact, they were utter strangers. Franklin suggested that such abuse might be diminished if the Dunkers published the articles of their belief and the rules of their discipline. Welfare replied that this course of action had been discussed among his co-religionists but had been rejected. He then explained their reasoning in the following words:

> When we were first drawn together as a society, it had pleased God to enlighten our minds so far as to see that some doctrines, which we once esteemed truths, were errors, and that others, which we had esteemed errors, were real truths. From time to time He has been pleased to afford us farther light, and our principles have been improving, and our errors diminishing. Now we are not sure that we are arrived at the end of this progression, and at the perfection of spiritual or theological knowledge; and we fear that, if we should feel ourselves as if bound and confined by it, and perhaps be unwilling to receive further improvement, and our successors still more so, as conceiving what we their elders and founders had done, to be something sacred, never to be departed from.[1]