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THE ECONOMICS OF {ATTENTION}

STYLE AND
SUBSTANCE
IN THE AGE OF
INFORMATION

The University of Chicago Press
Chicago and London

2006

company usually emerges as you move back and forth from argument to note or from parenthetical reference (Boondoggle, 1993a) to the works cited to see which of Boondoggle's 1993 offerings is meant. This procedure is essential in the specialized world of modern academic inquiry. It wouldn't work for me here, however, since I was pretty much shut out of the professional economics discussion by my lack of mathematics and because I am by no means expert in many of the other topics I touch on. So, as an experiment, I have chosen to chronicle my pursuit in a more informal, hypertextual way, as a supplement to the main argument of each chapter. In these background conversations, I'll describe some of the places I'm coming from and where you might go if you want to continue the conversation. Certainly this procedure will not be respectable in the eyes of professional economists, or of the many other scholars whose fields I touch on, but it may be useful to the ordinary reader, in whose existence I continue to believe.

Crestwood Hills, Los Angeles, 2005

CHAPTER ONE

{STUFF AND FLUFF}

The age of information has brought with it a strange paradox. Just when we are drowning in stuff, we seem to be abolishing it. Stuff and what we think about stuff seem to be changing places. Never before have so many people bought so many physical objects, so many

For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby, but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs of learning, admirable for the fineness of thread and work but of no substance or profit.

Francis Bacon, *The Advancement of Learning*

varied consumer goods, or expressed their personalities so fully through them. Houses get bigger, and one is seldom enough. Cars metamorphose into trucks and, with the Hummer, into tanks. Mail-order catalogs rain down on us. Our garages must have boats and our homes, home theaters. Moralizers preach about the villainies of such rampant consumerism but also complain, oddly enough, that not everyone can afford them. People love stuff and get enormous fun out of it, especially if it is a fashionable brand. But all this stuff, in spite of much whining to the contrary, has not stifled the finer things of life. There have never been so many art galleries, so many symphony orchestras, so sophisticated a life for the senses and the sensitive. And never have the actual physical locations of the world been so venerated or visited. Tourism, by some accounts at least, is the biggest business in the world, and sophisticated travelers search in vain for an island in the South Seas so obscure that the cruise ships don't yet call there. Nor have the resources of the natural world, live and inanimate, ever received such anxious care and loving contemplation as now they receive. You're nowhere if you don't have your merit badge in whale watching.

At the same time, the world of real places and the stuff in them seems to be evaporating before our stuff-clouded eyes. Tourism seems an oddly self-destructive business. When that South Seas island is discovered by "the tourists" we say it has been "ruined." It has lost its reality, its genuine substance. It has become an attention structure, a cruise ship stop, the nonstuff of which Disneyland is made. The more cruise ships we launch, the fewer of which Disneyland are made. The more cruise ships we launch, the fewer real ports will be left for them to visit. Mountain climbers have to make a reservation for Everest. The Galapagos Islands, the archetypal paradise of unspoiled nature, has had to ration access, too, lest the ecological balance be upset. Every city worth its salt has parked up its "old town" or, if unlucky enough to be new, has invented one. In such a world, all the world does indeed become a stage, staging itself for the visitor's eyes. Dramatic self-consciousness increases like global warming. Tourism, invented to restore our naive wonder at strange places, destroys them instead.

Actual physical location threatens to evaporate everywhere we look. Information, we are everywhere taught, has annihilated distance. Surgeons can cut you open from a thousand miles away. Facsimile Las Vegas casinos deliver Rome and New York on the same daily walk. You don't have to go to the office to go to the office. You can shop in your kitchen and go to school in your living room. And, sadly enough, when you actually do go out shopping, one mall seems much like another. For what actually matters, physicality doesn't matter anymore. Even with money; now, we are told, information about money is more important than the actual green.

So, too, with all the stuff that is so much fun to play with. Products used to be designed to last a lifetime. Now they have a shorter life than young love. For computers, it is three steps from cutting-edge to doornail. It is the relationship to the consumer that matters now, not the object that engenders it, or the database that such relationships generate that generates value, or the associations that can be built on such relationships, or the brand, the box it comes in. So enamored of brands have we become that we walk around plastered with sponsor decals like a race car. The clothes, the stuff, have become an excuse to display our brand loyalties, what we think about stuff.

Consumerism has become etherialized. The foes of "conspicuous consumption" always juxtapose the life of the mind to such shallow display, but what could be more cerebral than the information that prints out the stuff of the world? Conspicuousness triumphs over consumption. And look at how the automobile has suffered. Never have there been so many neat cars out there, so much new and useful engineering, so many marvelous roads to drive

them on (once you get off the freeway, at least). Yet the felt center of the car business has gravitated to design and the brand recognition that design can create. The "art and color" world Harley Earl began many years ago at GM has now moved center stage. Real men engineer brands not engines. And you don't buy a car anymore—you lease it like a piece of software that wears out its welcome in three years.

This paradoxical relation of stuff to nonstuff shows up in the oddest places. When Westminster Abbey decided to replace the chairs for its congregation, a company bought the old ones and sold them for £3,000 each. The interlace between this expensive seat and the priceless aura it represents lies in the gold-plated plaque that comes with each one, identifying it (how P. T. Barnum would have loved this) as a "bespoke congregation chair."

Or consider the Swiss cow. Such are the sentimental ties that Swiss citizens have to picturesque dairy farming that the Swiss government now spends, it is estimated, \$1,000 per cow in annual subsidies to keep that cow in the pasture for your drive-by. Or we might consider, on a larger scale, the picturesque countryside of rural France. The French have decided, with the financial help of their European brethren, to subsidize their agriculture in order to preserve the appearance of the countryside. The beautiful countryside and its picturesque agriculture—the stuff—is protected, but at the expense of converting it into an unreal tableau, nonstuff, a subsidized attention structure not unlike the Europe Disneyland that French intellectuals take such pleasure in despising.

Or we might consider the *Antiques Roadshow*. This popular TV show is not about antiques so much as about "collectibles." And the range of stuff that people collect is extraordinary, from old stoves to old campaign buttons, from porcelain to piggy banks. We are all, it seems, enamored of all this old stuff. Here is the world of antique virtue, where objects were made to last, when stuff was stuff. Yet what all those apprentice antiquarians who tote their stuff to the *Roadshow* seek, finally, is not stuff but information about stuff. Sure, they want to know what their object is worth, but quite as much they want information about it. How old is it? Where does it come from? Who made it? And, more rarefied yet, What about its style? It is by style that most of the expert identifications are made anyway. The hunger for stuff is paralleled by a hunger for style. Modern "materialism" turns out to be an intellectualized, spiritualized, affair.

This new oxymoronic coupling of stuff and nonstuff is supposed to be the work of the new information economy. Marshall McLuhan said long ago (in

1959) that information processing and packaging was now the chief business of the age. And Peter Drucker, the godfather of business gurus, has written more recently (1993): "The basic economic resource—the means of production, to use the economist's term—is no longer capital, nor natural resources (the economist's 'land'), nor 'labor.' It is and will be knowledge. The central wealth-creating activities will be neither the allocation of capital to productive uses, nor 'labor'—the two poles of nineteenth- and twentieth-century economic theory, whether classical, Marxist, Keynesian, or neo-classical. Value is now created by 'productivity' and 'innovation,' both applications of knowledge to work." So much for stuff. It has become a derivative effect like Swiss cows and French farms, forever preserved in picturesque pickle. To the degree that this change has occurred, obviously adjustments will be required. Even the bankers are feeling the heat. Here is the late Walter Wriston, the former chairman of Citibank: "The world desperately needs a model of economics of information that will schematize its forms and functions. But even without such a model one thing will be clear: When the world's most precious resource is immaterial, the economic doctrines, social structures, and political systems that evolved in a world devoted to the service of matter become rapidly ill suited to cope with the new situation. The rules and customs, skills and talents, necessary to uncover, capture, produce, preserve, and exploit information are now mankind's most important rules, customs, skills, and talents." Jeremy Campbell, the British journalist and science writer, paints this change from stuff to information on a broader canvas:

The view arose of information as an active agent, something that does not just sit there passively, but "informs" the material world, much as the messages of the genes instruct the machinery of the cell to build an organism. . . . Thus information emerged as a universal principle at work in the world, giving shape to the shapeless, specifying the peculiar character of living forms and even helping to determine, by means of special codes, the patterns of human thought. . . . Evidently nature can no longer be seen as matter and energy alone. Nor can all her secrets be unlocked with the keys of chemistry and physics. . . . A third component is needed for any explanation of the world that claims to be complete. To the powerful theories of chemistry and physics must be added a late arrival: a theory of information. Nature must be interpreted as matter, energy, and information.

OK. If you interpret nature as matter and energy, you create the industrial society within which we have grown accustomed to living. Real persons dig

minerals out of the earth's crust and make stuff out of them. Stuff, things that you can drop on your foot, predominates. Our archetype of the brawny blue-collar worker puddling concrete or staring into an open-hearth furnace has been built on this firm substrate of stuff. So a young businessman recently profiled in the *Wall Street Journal*: "My dad always said to me, 'You've got to dig it, grow it, or build it; everything else is just fluff.'" So there you have the three ages of economy, redefined: agriculture, industrialism, fluff.

But when you interpret nature as information, stuff and fluff change places. The "real" world becomes a printout, a printout created increasingly by computer graphics, by digital design. We see this synthetic reality everywhere nowadays, from TV commercials to scientific visualization, computer games to military training. In this world, every element has been created from specific information keyboarded by master illusionists. Made objects, from buildings to airplanes, find their beginning and central reality in computer-assisted design and manufacture. The life-giving act inheres in designing the object on a digital screen. The manufacture or "printout" of the object becomes a derivative function performed slave-like by a computer-controlled machine.

We have always had information as a perspective on stuff, to be sure, and toggled back and forth between the stuff and the information that informs it. You can look at a table and, like an early Greek philosopher, try to see it as a particular collection of atoms, but you seldom do. You can peer inside an amplifier chassis and try to see the circuit schematic that it instantiates. Such reverse engineering used to be uphill work. But now it is much easier. The information economy leaves the toggle switch in the information position. An information economy naturally assumes that pattern, design, comes first. (Perhaps that is why designers of electronic apparatus have started using see-through enclosures to spotlight the circuit boards.) The important people sit at computer screens and make designs. Even that true possessor of the right stuff, the fighter pilot, finds himself seated at a screen and flying a pilotless aircraft with a computer joystick. The great dream of manufacturers, now, is to metamorphose the factory simply by changing the software. The world we stub our foot on is only a printout that happens to have been made from the information available at that time. New information, and maybe we wouldn't have stubbed our foot.

This printout perspective is not new. The Middle Ages conceived the world as existing in the mind of God and having its only true reality there. Everything down here below was a temporary printout indeed, compared to

the eternity of Heaven. Or, if we want to search further back into the past we find the eternity of Plato's world of ideal forms. The ultimate reality of that world was a mathematics similar to the computer code that creates the world of computer graphics. So too, in a different way, the Greek philosopher Heraclitus thought that the ultimate reality of things lay in structure not stuff.

The God-like perspective has been recreated in our own time, in a new form, called, fittingly enough, "artificial life." Artificial life, as a scientific discipline, seeks to evolve biological systems within a computer, create living systems based on silicon (information) rather than carbon (the stuff that makes up us). Christopher Langton, one of the field's founders, explains it: "Certainly life, as a dynamic physical process, could 'haunt' other physical material: the material just needs to be organized in the right way. Just as certainly, the dynamic processes that constitute life—in whatever material bases they might occur—must share certain universal features—features that will allow us to recognize life by its dynamic *form* alone, without reference to its *matter*." Or, as these sentiments were synthesized by computer journalist Steven Levy, "The stuff of life is not stuff." In the great age of materialism, the material seems to be evaporating.

An information economy thus implies a fundamental figure/ground reversal in how we think about the world we live in. We always knew it had form, but the real reality was the stone you kicked with your foot. Now we are back in the Middle Ages, trying to fathom the mind of God. That's proving harder than kicking the stone. Such a reversal leads us to wonder whether "information economy" is the right name for where we find ourselves. Economics, in the classic definition, is the "study of how human beings allocate scarce resources to produce various commodities and how those commodities are distributed for consumption among the people in society." In an information economy, what's the scarce resource? Information, obviously.

But information doesn't seem in short supply. Precisely the opposite. We're drowning in it. There is too much information around to make sense of it all. Everywhere we look, we find information overload. The journalist David Shaw warns that "information inundation imperils our children." And the grownups, too. The designers of police cars complain that there is not enough room in a car for all the communications equipment that needs to fit into it. Ditto for airplane cockpits. The National Security Agency overhears far more information than it can make sense of, as the occupants of the World Trade Center found out. Race car engineers are overwhelmed by the amount of information relayed back to them from sensors on the cars. Oil

wells are now so heavily instrumented that they produce geysers of data points that are harder to process than the oil. Data from across the spectrum, X-rays, gamma rays, and the like, shower down on the head of the astronomer. The poor foot soldier, formerly isolated in his foxhole by the fog of war, now has so much information pouring into him that a special project, Force XXI, has been developed to help cope with foxhole overload. A recent effort to measure the amount of new information generated in the world each year came up with these numbers: "The world's total yearly production of print, film, optical, and magnetic content would require roughly 1.5 billion gigabytes of storage. This is the equivalent of 250 megabytes per person for each man, woman, and child on earth—every year!" (A megabyte = a million characters; a gigabyte = 1,000 megabytes.) The World Wide Web is now a document billions of pages long. And, as if digital overload weren't enough, printed books still pour from the presses: over 160,000 new U.S. titles and editions in 2002. No wonder the multitasking soccer mom, driving her SUV while talking on the phone, checking her personal digital assistant, drinking coffee, and coaching the young phenom sitting next to her, still feels frantic for time.

What then is the new scarcity that economics seeks to describe?

It can only be the human attention needed to make sense of information. This need has, in fact, been acknowledged in the current discussion but only in a tacit terminological fashion. Everyone discussing the information society hastens to distinguish between a dyslogistic "raw data" and a more eulogistic term, "true information" or "knowledge"—or sometimes even "wisdom"—which describes the valuable item. But the kitchen that cooks the raw data into useful "information" is human attention. It is the attention economy that has created the paradox of stuff.

So what do we make of this new kind of economy where stuff and fluff change places? Economics is the "study of how human beings allocate scarce resources to produce various commodities." But what if the scarce commodity is not a commodity? Fluff instead of stuff? Not surprisingly, conventional economists have ignored this reversal and treated information as a commodity. That, after all, is what economics is all about. "What companies need," says one business guru, "is a way to navigate in the knowledge economy. To do that, firms must have better devices for measuring knowledge—and their ability to create it and convert it into profits." Such a voice is thinking about knowledge as stuff that gets shipped out on pallets from the shipping dock. It hasn't made the vital jump from information to the attention needed to

make sense of it or from the static world of stuff to the volatile world of information and attention that, in our heart of hearts, we still think of as fluff.

The famous economist Herbert Simon considered the attention-economy problem in 1971 and saw it as simply a question of filtering. Computer “knowbots,” as we now call them, digital librarians, would organize our attention for us; our news would arrive pre-Googled and personalized. Or we would hire live special librarians to step in where Google fails. And so, at least to some degree, it has worked out. Special librarians are a growing job category. But either way, bots or bodies, the thinking remains “commodity” thinking. We have too many boxes of information arriving at our loading dock. We must find mechanized ways to organize their arrival. A UPS problem.

Human attention is a little more complicated than that. It is more like a poetry reading than a profit-and-loss statement. When stuff and fluff swap places, as they do in an attention economy, some basic changes occur. “Capital” and “productivity” take on more complex meanings. Economists are to be found in strange new places. A different theory of expression, and of digital notation, supervenes. A different balance in educational curriculum is implied. And a different kind of property, intellectual property, comes to the fore. We’ll consider these changes in the chapters to follow, but let’s begin with an “establishing shot” to get us thinking.

In a stuff economy, what is needed to capture, produce, and preserve goods we usually, if sometimes loosely, call capital. What, in an attention economy, constitutes capital? If we define “capital” simply as any sequestration of current resources for future use, how can such a concept exist in an attention economy? You can’t deposit attention in the bank until you need it. Nor can you reallocate it according to your own conception of social justice, as central planners yearn to do with the stuff of the world. And you can’t measure it accurately, either, as accountants and stock analysts have been finding out. One scholar has suggested that audits of a company ought to include a category for proclivity to change, proleptic agility. A fighter pilot-theorist has argued that top speed in fighter design is less important than the ability to change states more quickly than your opponent. These are starts. But they take us right into the world of human attention where such proclivities are born. There seems to be—the observation comes from many quarters—some attitude, or talent, lurking out there that can function as a compass for navigation in the new economy, some attention-economy equivalent for an accountant’s “feeling for numbers.” What else sells all those business-advice books about “navigating your company in the dangerous waters of the future”? But

what could this talent be? And how do you apply it when you find it? Obviously, these questions have something to do with the oscillation between stuff and nonstuff that an attention economy creates. But what? Back to capital in this new economy. What is it?

Let me sketch two answers that at least introduce the problem’s complexity. The behavioral biologists have sought to describe something called “the human biogrammar.” We used to call it “human nature” before the term was disallowed by a social science determined to see us as blank sheets of paper on which it could write utopian designs. But now we are allowed to use the term again, especially since we are beginning to find genetic bases for it. We might think of this inherited set of adaptive patterns, of behavioral inclinations, as the attention capital of humankind. It represents the stored-up impulse to pay attention to certain kinds of things in certain kinds of ways. We might, as an outstanding example, point to the “language instinct” that we possess, apparently from birth. Or our response to some sexual signals more than others. Or any of the myriad other suitcases in our evolutionary baggage. Only a fraction of these inherited capacities can any one of us express in our lives, but they are there for the asking. They constitute behavioral capital, resources stored up in an evolutionary bank and waiting to be allocated to human purposes, proclivities to attend to the world in some ways and not in others. The discussions of human capital in the business world, in as much as it has been given me to understand them, seem to be buzzing around this central assertion. And education has long done so, which might explain why we spend so much money to improve it. We want people to have a fuller sense of what it means, or might mean, to be alive.

Alternatively, we might locate “capital” in this new economy in the literary and artistic imagination, the powers that take the biogrammar we inherit and spin from it new patterns for how to live and to think about how we live. Capital, in this view, lies in the cultural conversation. Haven’t this storehouse always been the fundamental capital, the major stored resource, with which we meet the perpetual novelty of human life? Now that our future is becoming less and less constrained by material circumstance, now that we are less and less compelled to live out one manner of life only, or one job for life, may not this category of capital come to seem primary?

What, we might also ask, constitutes “productivity” in an attention economy? We are trying out one obvious answer to this question by doing more than one thing at once. *Carrying* our *alien* with both hands. Or, productivity might mean simply better information filters. Or—a different sort of an-

swer—what about the famous “Hawthorne Experiment”? This classic experiment sought to determine if production on a factory floor increased if the lighting was brighter. It did. But it also increased if the lighting was dimmer. The difference lay not in the light but in the workers’ being observed. This is not quite the same thing as being recognized or rewarded, though these obviously are part of it. When we are observed in our work, we socialize it. We share it with the observer and by doing so it becomes more real. Because more real, it becomes more worth attending to, more interesting. And so you do better work. From this dynamic, all the employee-of-the-month programs and performance bonuses. In all these programs, more attention makes more stuff. The productivity enzyme here is theatrical self-awareness.

Like the tourist business that plays such a prominent role in it, an attention economy is irremediably and self-consciously dramatic. It brings with it heightened dramatic self-consciousness as a central element. But more attention also makes for a more enjoyable life, not only more stuff but more fluff. A life shared with someone else is not the same life as one lived singly but one more real, deeper, richer, dynamic, more alive. If attention is the commodity in short supply, then all the debates about “quality of life” come to the fore. Ecclesiastes’ advice, “Better is a handful with quietness than both the hands full with travail and vexation of spirit,” is no longer fluffy proverbial wisdom. The argument between the arts and commerce begins just here. And the much older conflict between *otium* and *negotium*, between leisure and a life of “getting and spending.” And the equally venerable “Achilles’ choice” between a short, famous life and a long, prosperous obscurity. Or the conflict, fundamental to the argument, between substance and style. The conflict between these two kinds of economy, that is, returns us to a cluster of related, and perennial, topics in the history of Western thought. Each of these fundamental debates, I would argue, is about our two different kinds of economies, stuff and what we think about stuff or, for the sake of our handy rhyme, stuff and fluff. Learning how to oscillate between the two categories, loose and buggy as they are, has been a problem for a long time. It is thus a problem rich with precedent argument. Pondering these arguments may help us understand the present problem.

Consider, for example, Achilles’ choice. A capitalist economy brings with it a perennial argument, lively again at the present time, about when profit turns into greed. The same argument has been pursued since Homeric times about fame. Achilles’ choice. Practically every literary hero we know about has been “greedy for praise,” *loggeomast* as the Anglo-Saxon hero Beowulf is

described. Yet, much more often than not in Western history, we have applauded this “greed,” unlike the money kind, as a noble longing, an aristocratic hunger. Why is this?

Modern mass communications have created centripetal attention structures that bottle celebrity, and celebrities, for sale. Centripetal attention structures like these emerge so spontaneously from our behavior that they must be an inherited primate behavior pattern, part of our attention capital. So onward to our adoration of princesses, movie stars, and basketball players. These structures focus attention efficiently but on a very few people. They create machine-made fame.

They also create a winner-take-all society, as a recent book styles it. A few basketball players, opera singers, thriller writers, you-name-it, get all the attention and make all the money. All the world watches the young girl ice-skating at the Olympics do a double-triple backward toe flip. She wins and reaps the rewards. But a painful inefficiency comes with it. What about the rest of us?

Concentrating all the attention in a few hands, a world of celebrities, brings the same misfortunes of maldistributed wealth we know so well from goods economies. What about all the good pianists, violinists, novelists, poets, who are not great, or who have not managed their careers so as to be viewed as great? How do they find a condign place in the sun? Professors, too, are feeling this heat. When education migrates online, one famous professor can replace dozens of us lesser lights. Odd, isn’t it? We don’t object to these gross inequities in attention (at least if they happen to someone else) nearly so much as we do to similar inequities in stuff. If attention makes life real, if self-consciousness about experience enriches us as we pass through it, then the centripetal structures of modern fame should make us equally vexed. Why don’t they?

Well, in a few pathological instances, they do. As I write this, we are in the midst of a worldwide terrorist campaign that seeks, at least as its proximate reward, more attention from “the media.” Behind it lie plans, we are told, for eventual worldwide conquest, but the immediate goal is media attention. A more narrowly focused terror campaign was recently pursued by a sniper on the East Coast of the United States who toyed with the media to gain attention. And these two campaigns, large and small, have lots of company in the disgruntled teenager who brings a shotgun to school to kill the teacher and a few classmates and thus gain the attention so churlishly denied him by his peers. Or in the employees, vexed by the daily abrasions of work, who arrive

at the same solution. They are all crimes of attention, trying to get more of that commodity, as surely as Jesse James was trying to get more money from banks and trains. They want to prove that they are truly alive, not by getting rich but by being on television.

How on earth (heaven is another matter) do you resolve inequities of attention? Andy Warhol, in suggesting fifteen minutes of fame for each of us, pointed out the paradox in his characteristically indirect way. If you redistribute this subspecies of wealth, fame ceases to be fame. The egalitarian argument makes no sense in an economy of attention. You can't map the one sort of economic thinking directly onto the other.

Nor can you do so in regard to the most fundamental economic category, property itself. Property in a stuff economy means real stuff you can sit on, live in, drive. In a world of stuff, property can have only one owner. I cannot give you my Miata and continue to drive it myself. As the world has discovered from its experiments with the abolition of such private property, a productive economy depends on it. But this fundamental law of property does not work in an attention economy. Because it is built on electronic information as its central wealth, a public good that is effortlessly duplicated and distributed, we can eat our cake, still have it, and give it away too.

This paradox of property has come up before in the Western cultural conversation. An early Greek rhetorician (in a textual fragment usually called *Disoi logoi* [Opposed arguments]) set for debate the question: "That it is not possible, if you were to hand a thing over to someone else, for you still to have this thing. . . ." Not possible with a car; quite possible with an idea, an argument, a style, a design, an e-mail joke. It may be that this fundamental difference explains the frequent antipathy between the business world and the university. In the world of scholarship, so long as due credit is given, ideas are freely available for others to build on. (That, at least, is how it is supposed to work.)

The law of intellectual property has, as we might expect, been much rolled by this paradox. When copyright law first developed, it aimed to protect written utterance as enshrined in books, physical objects. You could not both keep a book and give it away, and every effort to evade this law of nature, as in nineteenth-century lending libraries, for example, has been opposed by the providers of such fixed-substrate information. But the digital screen finally gives information its condign expressive platform, a "binding" that, unlike the binding of a codex book, exactly fits its inner nature. You can both keep and share such information; both you and the world have an equal chance

to turn it into wisdom. The increasingly frantic and avaricious efforts by intellectual property holders to map old conceptions of property onto a new world it does not fit now constitute daily headlines. These headlines tell us that the locus of "property" has moved from stuff to fluff.

The collision of these two kinds of property manifests itself most strongly in the paradigmatic case of an attention economy, the Internet. The biologist Garrett Hardin, in his celebrated essay "The Tragedy of the Commons," made clear how the common ground in an English village, on which all could graze their sheep, speedily became overgrazed because each person had the use of it but none the responsibility for it. The more people grazed their sheep on the common, the more barren it became. (In fact, the villagers introduced laws to meet the problem, a problem that the economist Scott Gordon had more accurately described for the fisheries industry. It is Hardin's attention-grabbing phrase, however, that has gained immortality.) The World Wide Web has created what we might call "the comedy of the commons." It has developed into an ever-richer community resource. The more people graze on it for their own purposes, the bigger it becomes and the greener its grass grows. It thus combines the power of a free market, where individual gain leads to collective benefit, with the cooperative ownership of the cultural conversation.

We don't know how to handle this comedy of plenty in which the more we give away, the more we have. The efforts to absorb it into the alien, stuff, conception of property, to impose on it stuffy sales patterns and profit expectations, have cluttered it up with advertising and finally, perhaps, along with routine human folly, led to the dot-com collapse. These efforts may also, judging by the metastasizing intellectual property claims, strangle it. The Internet models the larger cultural conversation, and when something is put up there, people naturally consider it not as a product but as part of a conversation, whether it be the exchange of embroidery patterns or pop songs. The outraged exclamations that this conversation is "simple thievery" refuse to acknowledge the movement from an economics of stuff to an economics of attention.

In this discussion of changes that come with an economy of attention, I've been following Walter Wriston's admonition to seek out "the rules and customs, skills and talents, necessary to uncover, capture, produce, preserve, and exploit information." But I've left until last the most obvious place where such activity has always occurred: the university. Universities exist to "uncover, capture, produce, and preserve" information. Thus their increasing

importance in advanced economies since World War II. But universities have never been simply data-mining and storage operations. They have always taken as their central activity the conversion of data into useful knowledge and into wisdom. They do this by creating attention structures that we call curricula, courses of study. These try to make sense of the world's welter of information for students beginning to make their way in it. They decide how we pay attention to the world of information and hence what use we can make of it, how we can, to pick up Wriston's last word, "exploit" it. Since World War II these debates about the "relevance" and "use" of education have grown increasingly acrimonious. Let me suggest a new way to think about them. They have been, at heart, about the relative importance of an economics of stuff and an economics of attention and, above all, about how to relate them, how to move from one to the other. Not an easy thing to do, this oscillation from stuff to fluff, from the sciences to the arts and letters. This oscillation is not about knowledge *per se* but about how knowledge is held and used, about wisdom. Back again to our central paradox.

Since the end of the nineteenth century, the world of stuff has gradually come to dominate the university curriculum, at least in America. The sciences needed to analyze the physical world and the business acumen needed to make useful objects from it have constituted the serious subjects of study, the fields you "could make a living with." The traditional attention economists, the practitioners of the arts and letters, have supplied the ornamental fill. These aristocratic remnants have been sustained, when they have survived, by the unanswerable argument of "knowledge for its own sake." This argument, strong to those who already possess the knowledge and find it satisfying, has proved less powerful to those who must be persuaded why they should acquire it. But to the extent that we now live in an information economy, and hence one built on attention engineering, to coin an ecumenical phrase, this relationship must invert. The arts and letters, which create attention structures to teach us how to attend to the world, must be central to acting in the world as well as to contemplating it. The design of an object, in such a world, becomes as important as the engineering of the object. The "positioning in the market" of an object, a version of applied drama, will be as important as either one. The launch of a movie will be as important as the movie itself. No "for its own sake" arguments are required. Such knowledge is immediately useful in the world. A liberal education matters in a world of fluff.

Neither side seems prepared for this figure/ground inversion. The arts

and letters have not yet outgrown the antipathy to industrial enterprise, the world of stuff, left over from their nineteenth-century delusions of a static, rural, earthly paradise. The world of affairs is still pretty much the enemy. But the arts and letters, in an attention economy, constitute the world of affairs. For those of us who teach in the humanities, that enemy is now us. But the world of stuff has not gotten the message either. If you start talking about dramatic illusion, about the centrality of design, about the deep paradoxes of "intellectual property" to policy wonks or business execs or copyright lawyers you will not, at least in my experience, ring any bells.

But what about the economists? Where are they, and who are they, in an attention economy? In the twentieth century, the most obvious economists of attention have been the visual artists. The locus of art, for them, became not the physical object that occasioned the aesthetic response but the response itself. The center of art migrated from the object to the attention it required. Asking for instances is like writing the history of twentieth-century visual art. Cubism asked us to look at our seeing as well as the landscape seen and to toggle between the two in a single painting. The Italian futurists created alphabetic collages that asked us to consider letters as physical objects, stuff, rather than as agents of information, to reverse our customary stuff/nonstuff assumptions. Marcel Duchamp made a large career out of manipulating our attention about the modest number of objects he managed to create. Josef Albers in his color-square paintings asked us to look at color rather than through it to the information it conveyed. Robert Irwin created a series of paintings and scrim curtains that aimed to make us see how we see. The pop artists continually manipulated scale to make us recognize the role scale plays in how we apprehend the world. Claes Oldenburg scaled up ordinary objects until they became not ordinary stuff but the way we saw that stuff. Roy Lichtenstein drove the lesson home with a painting of a magnifying glass that magnified the Benday dots out of which he constructed his comic-book paintings. And we could write the same story for music, beginning with John Cage's effort to make us pay attention to daily background sounds by foregrounding them and presenting them as music. He wanted us to hear ourselves hearing.

When this art of attention became tedious, as it often did in percolating down, we could see it more clearly. It was didactic, not revolutionary, and its aim was to teach us how to toggle back and forth between seeing the art object, and hence the world, as stuff and seeing it as attention. It taught an economics lesson. It aimed to train us in the oscillation between stuff and fluff,

objects and what-we-think-about-objects, which we are continually required to make in an economy of attention. It told us an economics of attention was coming and it tried to teach us how to behave in it.

Without this background/foreground switch in the premise of art, we would not have had the design revolution that increasingly informs the attention economy. Design is now data driven. If you look at the history of non-representational painting through the eyes of computer graphics, it comes to seem not pure abstraction but the opposite, data-driven pictures of how we see. And looking now the opposite way, the scientific visualizations created by using numerical data often make wonderful nonrepresentational paintings. We can, for example, "see" mathematical equations given visual equivalence on a computer screen, and they turn out to be as beautiful as the mathematicians have always said they were. And self-consciously data-driven art, for example the paintings of Steven Rooke, which are created using genetic algorithms, links the world and our attention to it in fundamentally new ways. All of computer graphics—and that is increasingly how we create images—is data driven. It is made up of algorithms. You see the "information" in the image, the mathematics that inheres in the image. When a computer animator creates an algorithm to draw an image, she has looked at the object as information not as stuff. This oscillation embodies the background/foreground reversal we began with: the object from a stuff economy and the algorithm from the world of nonstuff. The economics of attention finds its center in just this oscillation between the two worlds, in the paradox of stuff.

When I went to a computer graphics meeting a dozen years ago, one of the participants introduced herself as an "information designer." The job description took me by surprise but it should not have. It encapsulates the stuff/fluff paradox. Designers make patterns in the physical world, templates for stuff. But when they design information, they are designing nonstuff, templates for how to think about the world, how to act in it.

Consider, for example, the design of fighter plane cockpits. The speed of encounter and decision that fighter pilots face has created a paradigmatic attention economy. Time is not only money here, it is life itself. The pilot has to allocate power in the world of stuff but to do so must convert masses of data into useful information and act on it immediately. The techniques invented to make this possible have involved superimposing information on the cockpit Plexiglas (the "heads-up display" that has now found its way into automobile windshields) so that the pilot sees the physical world and the information needed to make sense of it in the same visual field and can toggle back

and forth between them almost instantaneously. Surely the designer of such a space qualifies as an economist in an economy of attention, figuring out how the scarce commodity is, and should be, allocated.

The fighter cockpit exemplifies the theatrical space of the digital world, and if the literary critics have not seen this, the video game designers certainly have. Not only the flight-simulator games but the entire video game universe aims to make players into acute and swift economists of attention. The designers of motion-based theme park rides have developed the genre in a less involving way. Real-life military training is migrating into electronic theater, too, because training in the physical world is too expensive. War has always been an intensely theatrical experience, but in the Gulf War, the strategists truly began to see themselves as the set designers of the Mideast theater. "Theater of operations" is no longer a metaphor.

In twentieth-century experimental theater, the role of the actor has often conflated with that of the audience. In a "happening," the audience is the cast and writes the script as well. Literary theory has made much of how an audience rewrites the play in its own mind, bringing about the same conflation of roles, author and participant. We can, in video games, see the same conflation. The video gamer acts in his world. It is participatory theater par excellence. But he must also, to improve his performance, become a student of his own attention and the attention structure designed into the game. He must become, that is, an economist of attention, studying his performance even while he is immersed in it or in a high-frequency oscillation between the two states. So, too, with all the soldiers trained with this technology. They become acutely self-conscious of their own behavior, in rapid alternation acting and considering their own actions. The designer of these digital dramas is clearly an economist of attention, then, but so are the players. Parents may not need to worry so much about their children when they play video games. They may be training themselves for a new economy.

The most obvious new group of attention economists may be the computer-human interface designers. This branch of information design subsumes all the efforts at Web site design, amateur and professional, which we encounter on our daily voyages through cyberspace. The Internet constitutes the pure case of an attention economy. "Eyeballs" constitute the coin of the realm. If, as one sometimes reads, Internet companies spend 75 percent of their money on marketing, this only makes sense in a world where stuff has given way to fluff. It should not surprise us that the dominant discipline, the economics that matters in this new theater, is design.

We might look at the present ubiquity of product design as illustrating the paradox of stuff. When design is so big that it makes the cover of *Time* as it did a couple of years ago, the figure/ground relationship between stuff and fluff threatens to reverse itself, design becoming the figure, stuff the background. Yet designed products energize the world of products, of stuff, elevate them to artistic stature, make them more than ever occupy the foreground rather than the background. Foreground and background, stuff and nonstuff, begin to oscillate before our eyes, indeed have to oscillate, if we are to make sense of what is going on.

This should not surprise us. "Design" is our name for the interface where stuff meets fluff. The design of a product invites us to attend to it in a particular way; to pay a certain type of attention to it. Design tells us not about stuff *per se* but what we think about stuff. It is the interface where the stuff we dig out of the earth's crust meets a fully human reality of feelings, attitudes, and ambitions. The role of design in product development is beginning to reflect an awareness of this interface.

To take one egregious instance, consider automobile design. For the original Henry Ford, it hardly existed. "Any color so long as it is black," he is said to have said. When Alfred Sloan introduced the annual model change, and when changing paint formulations began to make other colors possible, design poked its nose under the tent flap. When Harley Earl came to General Motors to create the Style and Color section and began to make cars lower and sleeker, design got head and neck inside the tent. When Lee Iacocca sold Henry Ford II on the Mustang, design was all the way inside. Now, it threatens to take over the tent and command the campaign. Cars are built on a small series of platforms and differentiated by design into market niches. The next step, it is prophesied, will be the VBO or Vehicle Brand Owner. This company "will do only the core tasks of designing, engineering and marketing vehicles. Everything else, including even final assembly, may be done by the parts suppliers." The dominant economics in the car business has become an economics of attention rather than an economics of engineering.

The automobile business is not the only business to experience this change of focus from stuff to fluff. The triumph of brand recognition across the world of consumer products testifies to the same reversal. Firms are beginning to outsource the actual manufacture of their products as tangential to their real essence, which is brand development and recognition. Attention engineering is replacing product engineering as the center stage. The CEO of a handheld computer company recently confessed that she has never even seen the factory in Mexico where her product is made. Stuff doesn't matter. The manipu-

lation of attention provides the crucial center. Design school, perhaps combined with library school, may be a better preparation for the felt realities of current business life than the MBA mills dedicated to the economics of stuff. Or, perhaps even better, a degree in the history of drama.

If we are surrounded by information, we are equally surrounded by the notational systems that express it. Here, too, we surprise a fundamental change. The kinds of information vary, as do the kinds of expression, but the one will continue to demand the other. Even if we use raw numbers, information cannot come to us without some expression. No idea comes to us without traces of the company it has kept. We have always wished in the West, and especially in America, that this were not so. We want information to come in neutral packets. Michael Herr, in describing his life as a Vietnam war correspondent, found his way to this hunger: "After a year I felt so plugged in to all the stories and the images and the fear that even the dead started telling me stories, you'd hear them out of a remote but accessible space where there were no ideas, no emotions, no facts, no proper language, only clean information."

But clean information is not the destiny of humankind. Clean information is unnatural and unuseful. Information always comes charged with emotion of some kind, full of purpose. That is why we have acquired it. The only way to make it useful is to filter it. Filtering thus becomes central. And here is where style comes in. We keep striving for "pure information," but the more information we have, the more we need filters, and one of the most powerful filters we have is the filtration of style. So another paradox: the utopia of perfect information brings with it the return of stylistic filtration, of, as it has traditionally been called in Western culture, rhetoric.

"Rhetoric" has not always been a dirty word, the opposite of sincerity, truth, and good intentions. For most of its life it meant the training in expression, spoken and written, that you need to play a useful role in human society. It became a dirty word in the seventeenth century, when science, trying to describe the world of stuff, wanted to abolish the distortions of human attention structures. Human communication ought to be like the United Parcel Service, an efficient mover of information boxes from one destination to the other. This model for human communication gains its power from its narrowness, but we need a wider model for an attention economy. Information does not come in simple neutral boxes and its distribution is a more complex matter altogether. We need a more capacious conception of human communication, one that can accommodate the full range of human purpose.

All the more do we need it because the digital computer has created a new

expressive space. The screen works differently from the page. Words don't stay put. They dance around. Images play a major role and they move too. Color is everywhere. And sound, too, spoken and synthesized. Above all, a different expressive economy prevails. The printed page depends on an economics of deprivation. No color, no movement, images in careful moderation. All these sacrificed to create an expressive field that encourages concentration on conceptual thought. It is a monopolistic attention economy, directed from the top. The digital screen depends on an economics of plenty. It allows competition between word, image, and sound for our attention. It is a market attention economy, driven from the bottom. You can map onto these two contrasting expressive spaces all the arguments about top-down versus bottom-up, planned versus market, economies. Market economies, like the political democracy that accompanies them, demand a full-range conception of human communication, the kind a rhetorical curriculum has always provided. And this new rhetoric will have to be built on the digital expressive space as well as the printed one, and teach how to move easily from one to the other.

Time now for some "of courses."

Of course, there have always been more things to do than time to do them in. Of course, time has always passed too swiftly. Of course, we have always been surrounded by magnets that pull our attention in a dozen different directions at once. Of course, people have always sought fame, even, as Hamlet says, in the cannon's mouth. Of course, it has always been the case, as Epicurus said long ago, that "it is not things but what we think about things which troubles humankind." Stuff has never been only stuff. It has always, like gold, carried an emotional charge.

Of course, too, we are not going to etherealize into digital spirits who leave the flesh-and-blood world of stuff behind. Driven by our central paradox, the more efficient our instruments of electronic attention become, the more stuff we can, and do, turn out, and the more important it becomes. Being a gregarious lot, we are not going to be content with a world brought to our doorstep by the Internet and UPS. We are carbon-based creatures, not silicon bits, and will continue to take our joys out there in the human barnyard with our car-boniferous fellows. The more we seen to float away into informational space, the more we want to hug the ground.

But these of courses don't change the fundamental reversal of focus. Data rain down on us as never before, teraflops from space probes and gigaflops from point-of-sale registers at the Wal-Marts of the world. Scholarly research

continues to heap mountain on mountain. And we have never had so many entertaining distractions, or—if you dislike them—distracting entertainments. The biggest one is the world itself, the raw material of the tourist business. Travel as much as environmentalism and global trade has made us self-conscious about living on the planet Earth. Everything going on there now demands our attention. Suddenly we need to know about it not only to be hip but to be saved. Never have we paid so much attention to time, either. Since the dot-com bubble burst, we have heard less about "InternetTime" but surely its speedups continue to work on us. Information, and sometimes—who knows?—wisdom is dispersed into society faster than ever before. It is as if a computer compression algorithm had been applied to life itself.

And—biggest "of course" of all—the topic of human attention is impossibly broad. Cognitive science, neuroscience, and psychology study how human beings see, hear, use language, solve problems. Primatologists study how primates keep their hands together through attention structures. Archaeologists study how "primitive" *Homo sapiens* built unprimitive attention structures like Stonehenge and the Easter Island figures. The arts and letters are wholly occupied with creating attention structures. Each of these disciplines, and many more, have their own ways of narrowing the subject down into manageable size.

My own way here will follow my own discipline, the history of human expression, oral and literate—"rhetoric." It has traditionally been defined as the art of persuasion. It might as well, though, have been called the economics of attention. I argue here that, in a society where information and stuff have changed places, it proves useful to think of rhetoric precisely as such, as a new economics. How could it be otherwise? If information is now our basic "stuff," must not our thinking about human communication become economic thinking?

The following chapters explore some basic questions about an attention economy: Who are the economists? What happens to our expressive space when it moves from the stuff of the book to the volatile fluff of the computer screen? What kind of attention economy prevails there? What happens to our theory of human communication? What happens to universities when they go online, into a pure economy of attention? What happens to our idea of ownership when it moves from physical property to, as the lawyers style it, intellectual property? What, finally, considered in this new light, does the traditional theory of formal rhetoric look like? Can we think of this old body of thought as a new economics? And finally, what happens to how we think

about the human self and human society, to morality in a world where stuff and nonstuff have switched places?

To answer these questions we need to learn how to move more adroitly and self-consciously between stuff and fluff. We must understand better than we do now the paradoxical relationship between things and what we think about things. A comprehensive economics of attention will include both these ways of looking at the world and how we are to relate them. It must be built on the perceptual oscillation that allows us to focus both in our minds at once.

We'll begin our inquiry by considering two unlikely economists of attention.

Background Conversations

Rhetoric as an Educational System

Since the word "rhetoric" runs through this book, perhaps our first background conversation might sketch its history. Thinking about human personality, in Western culture at least, begins with the poems of Homer (ca. eighth century B.C.). Homer created two heroes, Achilles in the *Iliad* and Odysseus in the *Odyssey*. Achilles is the ideal blunt, brave warrior, a type as incapable of guile as of cowardice. At one point in the *Iliad*, Odysseus, who appears in that poem as well as his own adventure, tries to persuade Achilles to return to the battle, instead of sulking in his tent nursing his grievances. Only with his help can the Greeks conquer Troy. Achilles replies: "I must without scruple speak out what I think and what will happen. So don't keep sitting by me and pouring first one thing then the other into my ears. Hateful to me as the gates of hell is that man who hides one thing in his breast and speaks another." Hateful to all of us, Odysseus is forever doing just what Achilles hates, hiding one thing in his breast and speaking another. He is famous for it. At the beginning of his own poem, the *Odyssey*, he is called *polytropos*, a man of many turnings. Many times in the poem he has to lie to save his skin, but sometimes he lies just for the fun of it, dwindling from epic hero into improvisational poet. He finally arrives home and, by using a masterful disguise, frees his wife and house from the parasitical suitors infesting it. He would not have gotten home, or reclaimed it, without his fondness for dramatic imposture and ability to tell a good story.

Achilles' sincerity must appeal to all of us. So too his manner of persuasion. He simply says exactly what he feels and lets the chips fall where they may. His follow-up method, though common enough in history, is less appealing. If his enemies persist in disagreement, he kills them. That's one social model. Odys-

seus's contrasting method—trying to change Achilles' mind by calling attention first to this circumstance then to that result, suggesting that the world might seem different if viewed from a different perspective, that he may have misunderstood Agamemnon, who has offended him, or that Agamemnon is sorry he has hurt Achilles' feelings—whatever argument might work—appeals to us much less. It aims less at finality than at temporary conflict resolution, compromises, sweeping things under the carpet, playing "let's pretend" here and casting a blind eye there, letting bygones be bygones and water flow under the bridge, everything that we mean by "spin," "politics," or—to use our dirtiest word—"rhetoric."

But Achilles' uncompromising sincerity, appealing as it is, seldom works. Achilles has become the model of unforgiving sincerity and, as Robert Frost once said, "to be social is to be forgiving." Brutal sincerity, unvarnished truth, seldom works, even for absolute monarchs. To govern, even kings must employ expedients. But Achilles' philosophy of communication is always the operating system of choice for political dictators and religious zealots and their wars of conquest and religion. As Athenian culture moved toward democracy, Achilles remained its hero but Odysseus increasingly provided its operating system. In a democracy, the voters need to be persuaded not coerced, and they often are as petulant and resentful as Achilles. And, like Achilles, if you don't get them on your side, you are going to lose the war.

Thus there grew up in Athens a body of knowledge about how to get people on your side voluntarily. This body of knowledge speedily became, and remained for more than 2,000 years, the core of Western education. It was called "rhetoric." (*Rhetor* was the usual term in Greek for "politician.") It taught you how to get people's attention and how to argue your case once you had it. Getting people's attention in a predominantly oral culture that worked through direct assembly meant training two vital powers: memory and voice. You had to speak your case, not read it. ("Reading a paper," then as now, was an invitation to slumber land.) That meant a training in memory so thorough that, in our time, it seems incomprehensible. And you had to learn how to speak in public. That meant, in an age before artificial amplification, voice training, and training for volume as well as quality. And you had to learn how to gesture as well, since more people could see you than hear you. From this necessity, grew a whole vocabulary of gestures. Each aimed to create a specific emotion or underline a specific kind of argument. You had to learn, not to put too fine an edge on it, to be an actor. That part of rhetoric, speaking and body language (as we now call it), was called delivery.

Delivery did not deliver its messages as simply as United Parcel or FedEx.

which bring the stuff to your door, ring the bell, and leave. It involved communicating the message in such a way that it would be accepted and attended to rather than refused, ignored, or thrown in the wastepaper basket unread. The United Parcel theory of communication fits Achilles very well; it is the physical counterpart to his blunt sincerity. Look, here's what I think, a box of stuff that I drop on your doorstep. Take it or leave it. But that wasn't how Odysseus operated at all. He was trying to convey a different conception of the world and to invite you to live in this changed world. That meant embodying your argument. Rhetorical delivery was a fully social act. The meaning came wrapped in a package of behavioral clues and cues.

What did you deliver? An argument, and so a rhetorical education taught you how to find arguments and how to arrange them. Finding them was, as the rhetorical *paideia*, or method of education, developed, made easier for you by the compilation of lists of possible arguments from which you could select what you needed. These came to be called the "places of argument," locations where you could go to get good arguments, preformed and ready to use. (In much the same way, computer graphics programs have ready-to-use libraries of visual effects, and digital music programs stores of sounds.) This part of rhetoric was called invention, and it brought with it its own assumptions. If delivery assumed that human communication was essentially and inevitably a dramatic act, invention implied that argument was a teachable activity. You did not have to make up your arguments from scratch each time you sought to persuade someone. The kinds of arguments that people would find convincing were limited in number and could be categorized and learned. In this way, you would learn what people were like by learning what kinds of arguments persuaded them of what. People were not all originals and you did not have to be all original either. Thus the implied system of authorship was communal not individual.

You can already see here the birth of the stuff/nonstuff paradox. You would, with messages delivered this way, always be oscillating between message and delivery, stuff and what we think about stuff.

Once you had your arguments in hand, you had to arrange them in a convincing order. You first stated the question to be resolved, and then presented your arguments, the story you asked your audience to believe. Then you tried to refute the other side's story and then you presented a summary that you hoped would stick in your audience's mind. This two-sided argument is so familiar a manner of proceeding that we take it for granted. It is just the way things are. But two-sided argument is not inevitable in human affairs, which come with many sides. Two-sided argument (*Dissoi logoi*, as the Greeks called it) had to be invented as a particular way to structure human attention.

Because it is the basis of our legal system, we assume that it is how argument inevitably must be pursued—every argument has two sides. But we inherited this inevitability from Greek rhetoric, which devised a procedure for solving disputes in a democracy based on attention structures. Two-sided argument allows for resolution. The jury is offered two conflicting stories of what happened, and it has to accept one or the other. Like delivery, two-sided argument is an essentially dramatic method of conflict resolution and hence of governance. That is its enfranchising assumption: resolution comes with a price and the price is dramatic persuasion. Achilles remained the Greek culture hero, but Odysseus founded the legal system.

Two-sided argument emerged as part of rhetoric, a theory of communication that was and remained profoundly social. It was always concerned with returning abstract thought to the three-dimensional world of behavior where it had to work. Some kind of decision had to be reached. Digital expression, as we shall see, tries to do the same thing, to bridge the gap between the abstract world of alphabetic notation and the three-dimensional noisy world of human behavior. Formal rhetoric assumed that the scarce commodity was human attention and that it had to be skillfully allocated. We can think of a legal trial as just such an allocation. Each side presents an attention structure that purports to be what really happened in the "real" world of stuff. Again, that paradox.

But it also emphasized audience awareness. You would always listen to how your audience was responding and adjust your arguments accordingly. You might end up very far from where you had originally planned to be. As Helmut von Moltke said, and many generals after him, "No battle plan lasts beyond the first day." Your audience often makes links you hadn't thought of, and these links stimulate your creative imagination. We strive for the same results when we reticulate a series of hypertextual "links" into systematic efforts to stimulate creativity with unexpected juxtapositions. Hypertextual linking can move us from one world of discourse to another, and this kind of voyaging has always stimulated creativity. Rhetorical invention was this kind of organized creativity. It coaxed chance, planned for improvisation.

The classical doctrine of arrangement, the organizational plan for an oration, implied the other kind of management, top-down, "table of organization and equipment" thinking. Arrangement supplied the basic pattern for extended conceptual thinking from the classical Greeks onward. It told us how to begin, how to develop, how to end, how to refute objections—and thus how to both hear and evaluate an argument. Listen to a corporate executive try to explain an organizational chart, and she'll explain it to you using the form of a classical oration, whether she knows it or not. It is the archetypal voice of planning. Thus

an oscillation was built into the educational system that both encouraged top-down thinking and bottom-up thinking, each when it seemed to work best.

Style, memory, and delivery constituted the package for persuasion in classical rhetoric. Memory allowed you to pretend that you speak spontaneously. Delivery allowed you to distribute the message in person. In preamplification days, this meant a loud voice and commanding gestures. Radio and television provide us with subtler delivery techniques (although they are not always used), but the basic requirement remains the same. You must seem like someone people can trust. Style really includes both of these, now that memory is digitized, voice and image amplified. Style, once again, is ingratiation.

From this educational system emerged the "revisionist thinking" I discuss in the last chapter. It taught its pupils how to revise not only speeches and texts but also attitudes and human relationships. It linked style and behavior; they were part of the same system. The rhetorical educational system taught a way to hold knowledge tentatively, aware of your motives in holding it, aware of your audience and of the arguments that oppose your own. Aware, above all, that under different circumstances, you might be arguing the opposite case. Such training in rhetoric as has survived into our time usually justifies itself by arguing that you need to learn the methods of argument to defend yourself against your opponents. But, more important, it allows you to defend yourself against yourself, to cultivate an interior countercheck. The more odious you might find that opposing opinion, the more you should seek to know what would make someone hold such an opinion. And the more you should examine the grounds on which you hold your own. This self-examination is, and ought to be, a humbling experience.

Such an education makes you comfortable with a bi-stable grasp of the world. Looking through experience and at it, first one and then the other, comes to seem a natural way of seeing, a habit of perception. Such an oscillation will constitute your characteristic way of looking at the world. Helpful, don't you think, if you have to live in a world where stuff and what we think about stuff are often at odds?

What kind of economy did rhetorical education imply? A market economy, obviously enough. An economy that depends on persuasion. It is the rhetorical habit of mind that creates both the free market and the free market of ideas. The freedom comes from persuasion not coercion, whether you buy a product or an idea. Planned economies constrain attention; rhetorical markets attract it. They do not compel agreement; they invite it.

Think of all the diatribes against "hidden persuaders" that have accompa-

nied the plenitude of goods advanced economies can now provide. If you know what people really ought to buy instead of what they do buy, as cultural critics usually do, you'll always demonize persuasion of any sort, hidden or not. Rhetorical education put its faith in this demon. Persuasion creates markets that embody free choice. A training in persuasion ran both ways; you tried to persuade and you knew persuasion when it was aimed at you. Such a training both defines and refines markets. The more self-conscious the training, the more sophisticated the markets.

We like to think, especially if we are of a scientific turn of mind, that information comes without packages, just the "raw data." Intellectuals like to think that ideas come without packages, that they bear no traces of the company they have kept. That there is a history of ideas, all by themselves. Like the recipients of the Christo joke discussed in chapter 2, they pay no attention to the package and unwrap it to find an idea. But the idea has evaporated when the package was cast aside. Like Christo, the arguments of what we have come to call postmodern thought have all, in one way or another, insisted that ideas do have packages and that the packages are important. So rhetoric has always argued. By the intensity of its training in the means of expression, it lent to the people whom it educated a self-consciousness about how expression affected content, about how knowledge always should be held with an awareness of its container. I think that is what the philosopher and mathematician Alfred North Whitehead had in mind when he defined wisdom as just this—how knowledge is held.

If you want to read up on the history of rhetoric, George Kennedy's two foundational volumes, *The Art of Persuasion in Greece* and *The Art of Rhetoric in the Roman World*, are the place to start. He has also written an abridgement of these two works, *A New History of Classical Rhetoric*. My *Handlist of Rhetorical Terms* introduces a reader to the basic nomenclature and categories and offers short essays on key terms and concepts. The foundational quarrel of intellectual perspectives in Western culture is the one between the rhetoricians and the philosophers. Bruce A. Kimball has written a "history of the idea of liberal education" as the quarrel between the two in *Orators and Philosophers*. The philosophers have gotten most of the praise—think of how Plato's Socrates has become a secular god in liberal education—but the rhetoricians founded the educational system. The best introduction to this system I know is H. I. Marrou's *A History of Education in Antiquity*. G. B. Kerferd has written an incisive short book on the rhetoricians whom Plato denounced, *The Sophistic Movement*. The great ex-planatory defense of the rhetoricians, however, is Eric A. Havelock's *The Liberal Temper in Greek Politics*. He has also written a corollary book, *A Preface to Plato*,

which seeks to explain, among many other things, why Plato hated art. It reads like a mystery story and provides a good introduction to the whole debate.

The argument for a "bottom-up" free-market economy has been made by Friedrich A. Hayek's *The Constitution of Liberty*. He argues for the role of chance in ways strikingly similar to those employed in the "aleatory art" of the twentieth century. I cite him rather than Milton Friedman, or other defenders of the market, because his arguments parallel in many ways the basic assumptions of the rhetorical system of education. He might, in fact, be thought of as a defender of the rhetorical view of society. Or, perhaps we might say, he conceived economics as essentially an economics of attention. Hayek argued that "there is no simple understanding of what makes it necessary for people under certain conditions to believe certain things. The evolution of ideas has its own laws and depends very largely on developments that we cannot predict." Formal rhetorical instruction created market rules for this evolution to occur. It did not argue for one conclusion or another—that was philosophy's job—but rather sought to establish an environment in which argument could persuade by peaceable competition. Hayek stressed the creativity of competition. Techniques of persuasion referee the competition of ideas and from this competition, Hayek argued, evolves the spontaneous development of thought.

Daniel Yergin and Joseph Stanislaw have surveyed the shift, in the last fifty years, from top-down planning to open markets, in *The Commanding Heights: The Battle between Government and the Marketplace That Is Remaking the Modern World*. Robert J. Samuelson's *The Good Life and Its Discontents* talks about this same contention between government planning and the marketplace. It is a carefully argued and balanced book from which much is to be learned, not least about the puzzling mixture of stuff and attention that makes up the modern American economy. Both books, though neither makes the point explicitly, continue the classical dispute between the top-down philosophers and the bottom-up rhetoricians.

The arts and letters world has, at least since Alexander Pope's denunciation of popular taste in *The Dunciad*, despised the bottom-up freedoms of the marketplace in favor of the pastoral stasis of a traditional English country village. Martin J. Wiener's *English Culture and the Decline of the Industrial Spirit* traces this literary resistance to an industrial economy. If you want to know where all the literary clichés about heartless capitalism and sordid profit come from, Wiener is the place to go. He chronicles the Edenic illusion on which so much adverse commentary about an attention economy is based.

The Platonic critique of rhetoric and those who taught it argued that it was a

training in lying. Jeremy Campbell surveys the history of lying in *The Liar's Tale: A History of Falsehood*, a book that touches my own argument at many points. It ought to be read in conjunction with Jonas Barish's *The Anti-Theatrical Prejudice*. Between them, they survey all the objections to rhetoric that have made it a dirty word. Campbell discusses a number of issues that I've not had space for here, including the postmodern tolerance for, and sometimes advocacy of, lying. Much of what we think of as postmodern thought amounted to a revival of rhetoric, but the world of literary theory and cultural studies adopted only half of the rhetorical *paideia*, the search for the special interests that lie behind any argument. As often as not, these debunking inquiries have not extended to the writers themselves. "At" vision has been restricted to opponents. They use rhetoric; we only speak the unvarnished truth. Campbell explores these self-contradictions. It is a book whose careful and complex arguments are couched in wonderfully clear prose. An excellent introduction to the "deconstructive" postmodern world by someone with a first-class crap detector that he does not hesitate to use.

I must acknowledge here the "conversation" (through books and, on two notable occasions, in person) of the great American rhetorician and literary critic, Kenneth Burke. He has provided the intellectual framework within which my thinking has developed since I was introduced to his work as a graduate student. Throughout his unorthodox intellectual life he refused to observe the disciplinary boundaries by which, and in which, most academics live, and without his inspiration I never would have had the wit, much less the courage, to try to bring together the various kinds of endeavor and thinking I've drawn on in this book. Burke started out in the thirties as a raging Marxist and remained, throughout his career, a fierce opponent of business and business people and the world of capitalism and profit that they represented. But, at the same time, his final loyalty was to the rhetorical habit of mind, and that habit led inexorably to free markets and the profit-oriented and hierarchical struggles in what he called "the human bannyard." If you are interested in the arguments for rhetoric I've advanced in this book, Burke is the place you should go next. Start with *A Rhetoric of Motives* and persevere. (I've listed his main books in "Works Cited.") He started the rhetorical conversation for our time.

Rhetoric and Economics

The book that first made me think about economics and rhetoric in the same frame was Deirdre McCloskey's *The Rhetoric of Economics*, and I owe it a great debt, a debt that has continued as I read McCloskey's other work: *If You're So*