



## SLACKAHEAD

### READING HABIT MATERIAL - 8

The extent of a nation's power over its coastal ecosystems and the natural resources in its coastal waters has been defined by two international law doctrines: freedom of the seas and adjacent state sovereignty. Until the mid-twentieth century, most nations favored application of broad open-seas freedoms and limited sovereign rights over coastal waters. A nation had the right to include within its territorial dominion only a very narrow band of coastal waters (generally extending three miles from the shoreline), within which it had the authority but not the responsibility, to regulate all activities. But, because this area of territorial dominion was so limited, most nations did not establish rules for management or protection of their territorial waters.

Regardless of whether or not nations enforced regulations in their territorial waters, large ocean areas remained free of controls or restrictions. The citizens of all nations had the right to use these unrestricted ocean areas for any innocent purpose, including navigation and fishing. Except for controls over its own citizens, no nation had the responsibility, let alone the unilateral authority, to control such activities in international waters. And, since there were few standards of conduct that applied on the "open seas", there were few jurisdictional conflicts between nations.

The lack of standards is traceable to popular perceptions held before the middle of this century. By and large, marine pollution was not perceived as a significant problem, in part because the adverse effect of coastal activities on ocean ecosystems was not widely recognized, and pollution caused by human activities was generally believed to be limited to that caused by navigation. Moreover, the freedom to fish, or overfish, was an essential



element of the traditional legal doctrine of freedom of the seas that no maritime country wished to see limited. And finally, the technology that later allowed exploitation of other ocean resources, such as oil, did not yet exist.

To date, controlling pollution and regulating ocean resources have still not been comprehensively addressed by law, but international law—established through the customs and practices of nations—does not preclude such efforts. And two recent developments may actually lead to future international rules providing for ecosystem management. First, the establishment of extensive fishery zones extending territorial authority as far as 200 miles out from a country's coast, has provided the opportunity for nations individually to manage larger ecosystems. This opportunity, combined with national self-interest in maintaining fish populations, could lead nations to reevaluate policies for management of their fisheries and to address the problem of pollution in territorial waters. Second, the international community is beginning to understand the importance of preserving the resources and ecology of international waters and to show signs of accepting responsibility for doing so. As an international consensus regarding the need for comprehensive management of ocean resources develops, it will become more likely that international standards and policies for broader regulation of human activities that affect ocean ecosystems will be adopted and implemented.



slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackaheads slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead

slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead  
slackahead



## SLACKAHEAD

### READING HABIT MATERIAL - 9

The human species came into being at the time of the greatest biological diversity in the history of the Earth. Today, as human populations expand and alter the natural environment, they are reducing biological diversity to its lowest level since the end of the Mesozoic era, 65 million years ago. The ultimate consequences of this biological collision are beyond calculation, but they are certain to be harmful. That, in essence, is the biodiversity crisis.

The history of global diversity can be summarized as follows: after the initial flowering of multicellular animals, there was a swift rise in the number of species in early Paleozoic times (between 600 and 430 million years ago), then plateau-like stagnation for the remaining 200 million years of the Paleozoic era, and finally a slow but steady climb through the Mesozoic and Cenozoic eras to diversity's all-time high. This history suggests that biological diversity was hard won and a long time in coming. Furthermore, this pattern of increase was set back by five massive extinction episodes. The most recent of these, during the Cretaceous period, is by far the most famous, because it ended the age of the dinosaurs, conferred hegemony on the mammals, and ultimately made possible the ascendancy of the human species. But the cretaceous crisis was minor compared with the Permian extinctions 240 million years ago, during which between 77 and 96 percent of marine animal species perished. It took 5 million years, well into Mesozoic times, for species diversity to begin a significant recovery.

Within the past 10,000 years biological diversity has entered a wholly new era. Human activity has had a devastating effect on



species diversity, and the rate of human-induced extinctions is accelerating. Half of the bird species of Polynesia have been eliminated through hunting and the destruction of native forests. Hundreds of fish species endemic to Lake Victoria are now threatened with extinction following the careless introduction of one species of fish, the Nile perch. The list of such biogeographic disasters is extensive.

Because every species is unique and irreplaceable, the loss of biodiversity is the most profound process of environmental change. Its consequences are also the least predictable because the value of Earth's biota (the fauna and flora collectively) remains largely unstudied and unappreciated; unlike material and cultural wealth, which we understand because they are the substance of our everyday lives, biological wealth is usually taken for granted. This is a serious strategic error, one that will be increasingly regretted as time passes.



## SLACKAHEAD

### READING HABIT MATERIAL - 10

Women's participation in the revolutionary events in France between 1789 and 1795 has only recently been given nuanced treatment. Early twentieth century historians of the French Revolution are typified by Jaurès, who, though sympathetic to the women's movement of his own time, never even mentions its antecedents in revolutionary France. Even today most general histories treat only cursorily a few individual women, like Marie Antoinette. The recent studies by Landes, Badinter, Godineau, and Roudinesco, however, should signal a much-needed reassessment of women's participation.

Godineau and Roudinesco point to three significant phases in that participation. The first, up to mid-1792, involved those women who wrote political tracts. Typical of their orientation to theoretical issues—in Godineau's view, without practical effect—is Marie Gouze's *Declaration of the Right of Women*. The emergence of vocal middle-class women's political clubs marks the second phase. Formed in 1791 as adjuncts of middle-class male political clubs, and originally philanthropic in function, by late 1792 independent clubs of women began to advocate military participation for women. In the final phase, the famine of 1795 occasioned a mass women's movement: women seized food supplies, held officials hostage, and argued for the implementation of democratic politics. This phase ended in May of 1795 with the military suppression of this multiclass movement. In all three phases women's participation in politics contrasted markedly with their participation before 1789. Before that date some noblewomen participated indirectly in elections, but such participation by more than a narrow range of the population—women or men—came only with the Revolution.



What makes the recent studies particularly compelling, however, is not so much their organization of chronology as their unflinching willingness to confront the reasons for the collapse of the women's movement. For Landes and Badinter, the necessity of women's having to speak in the established vocabularies of certain intellectual and political tradition diminished the ability of the women's movement to resist suppression. Many women, and many men, they argue, located their vision within the confining tradition of Jean-Jacques Rousseau, who linked male and female roles with public and private spheres respectively. But, when women went on to make political alliances with radical Jacobin men, Badinter asserts, they adopted a vocabulary and a violently extremist viewpoint that unfortunately was even more damaging to their political interests.

Each of these scholars has different political agenda and takes a different approach—Godineau, for example, works with police archives while Roudinesco uses explanatory schema from modern psychology. Yet, admirably, each gives center stage to a group that previously has been marginalized, or at best undifferentiated, by historians. And in the case of Landes and Badinter, the reader is left with a sobering awareness of the cost to the women of the Revolution of speaking in borrowed voices.

## SLACKAHEAD

### READING HABIT MATERIAL - 11

Art historians' approach to French Impressionism has changed significantly in recent years. While a decade ago Rewald's *History of Impressionism*, which emphasizes Impressionist painters' stylistic innovations, was unchallenged, the literature on impressionism has now become a kind of ideological battlefield, in which more attention is paid to the subject matter of the paintings, and to the social and moral issues raised by it, than to their style. Recently, politically charged discussions that address the impressionists' unequal treatment of men and women and the exclusion of modern industry and labor from their pictures have tended to crowd out the stylistic analysis favored by Rewald and his followers. In a new work illustrating this trend, Robert L. Herbert dissociates himself from formalists whose preoccupation with the stylistic features of impressionist painting has, in Herbert's view, left the history out of art history; his aim is to restore impressionist paintings "to their sociocultural context." However, his arguments are not finally persuasive.

In attempting to place impressionist painting in its proper historical context, Herbert has redrawn the traditional boundaries of impressionism. Limiting himself to the two decades between 1860 and 1880, he assembles under the impressionist banner what can only be described as a somewhat eccentric grouping of painters. Cezanne, Pissarro, and Sisley are almost entirely ignored, largely because their paintings do not suit Herbert's emphasis on themes of urban life and suburban leisure, while Manet, Degas, and Caillebotte—who paint scenes of urban life but whom many would hardly characterize as impressionists—dominate the first half of the book. Although this new description of Impressionist painting provides a more unified conception of nineteenth-century



French painting by grouping quite disparate modernist painters together and emphasizing their common concerns rather than their stylistic difference, it also forces Herbert to overlook some of the most important genres of impressionist painting—portraiture, pure landscape, and still-life painting.

Moreover, the rationale for Herbert's emphasis on the social and political realities that Impressionist paintings can be said to communicate rather than on their style is finally undermined by what even Herbert concedes was the failure of Impressionist painters to serve as particularly conscientious illustrators of their social milieu. They left much ordinary experience—work and poverty, for example—out of their paintings and what they did put in was transformed by a style that had only an indirect relationship to the social realities of the world they depicted. Not only were their pictures inventions rather than photographs, they were inventions in which style to some degree disrupted description. Their painting in effect have two levels of subject: what is represented and how it is represented, and no art historian can afford to emphasize one at the expense of the other.



## SLACKAHEAD

### READING HABIT MATERIAL - 12

Until recently many astronomers believed that asteroids travel about the solar system unaccompanied by satellites. These astronomers assumed this because they considered asteroid-satellite systems inherently unstable. Theoreticians could have told them otherwise: even minuscule bodies in the solar system can theoretically have satellites, as long as everything is in proper scale. If a bowling ball were orbiting about the Sun in the asteroid belt, it could have a pebble orbiting it as far away as a few hundred radii (or about 50 meters) without losing the pebble to the Sun's gravitational pull.

Observations now suggest that asteroid satellites may exist not only in theory but also in reality. Several astronomers have noticed, while watching asteroids pass briefly in front of stars, that something besides the known asteroid sometimes blocks out the star as well. Is that something a satellite?

The most convincing such report concerns the asteroid Herculina, which was due to pass in front of a star in 1978. Astronomers waiting for the predicted event found not just one occultation, or eclipse, of the star, but two distinct drops in brightness. One was the predicted occultation, exactly on time. The other, lasting about five seconds, preceded the predicted event by about two minutes. The presence of a secondary body near Herculina thus seemed strongly indicated. To cause the secondary occultation, an unseen satellite would have to be about 45 kilometers in diameter, a quarter of the size of Herculina, and at a distance of 990 kilometers from the asteroid at the time. These values are within theoretical bounds, and such an asteroid-satellite pair could be stable.



With the Herculina event, apparent secondary occultations became "respectable"—and more commonly reported. In fact, so common did reports of secondary events become that they are now simply too numerous for all of them to be accurate. Even if every asteroid has as many satellites as can be fitted around it without an undue number of collisions, only one in every hundred primary occultations would be accompanied by a secondary event (one in every thousand if asteroid satellites system resembled those of the planets).

Yet even astronomers who find the case for asteroid satellites unconvincing at present say they would change their minds if a photoelectric record were made of a well-behaved secondary event. By "well-behaved" they mean that during occultation the observed brightness must drop sharply as the star winks out and must rise sharply as it reappears from behind the obstructing object, but the brightness during the secondary occultation must drop to that of the asteroid, no higher and no lower. This would make it extremely unlikely that an airplane or a glitch in the instruments was masquerading as an occulting body.



## SLACKAHEAD

### READING HABIT MATERIAL - 13

Governments of developing countries occasionally enter into economic development agreements with foreign investors who provide capital and technological expertise that may not be readily available in such countries. Besides the normal economic risk that accompanies such enterprises, investors face the additional risk that the host government may attempt unilaterally to change in its favor the terms of the agreement or even to terminate the agreement altogether and appropriate the project for itself. In order to make economic development agreements more attractive to investors, some developing countries have attempted to strengthen the security of such agreements with clauses specifying that the agreements will be governed by "general principles of law recognized by civilized nations"—a set of legal principles or rules shared by the world's major legal systems. However, advocates of governments' freedom to modify or terminate such agreements argue that these agreements fall within a special class of contracts known as administrative contracts, a concept that originated in French law. They assert that under the theory of administrative contracts, a government retains inherent power to modify or terminate its own contract, and that this power indeed constitutes a general principle of law. However, their argument is flawed on at least two counts.

First, in French law not all government contracts are treated as administrative contracts. Some contracts are designated as administrative by specific statute, in which case the contractor is made aware of the applicable legal rules upon entering into agreement with the government. Alternatively, the contracting government agency can itself designate a contract as administrative by including certain terms not found in private civil



contracts. Moreover, even in the case of administrative contracts, French law requires that in the event that the government unilaterally modifies the terms of the contract, it must compensate the contractor for any increased burden resulting from the government's action. In effect, the government is thus prevented from modifying those contractual terms that define the financial balance of the contract.

Second, the French law of administrative contracts, although adopted by several countries, is not so universally accepted that it can be embraced as a general principle of law. In both the United States and the United Kingdom, government contracts are governed by the ordinary law of contracts, with the result that the government can reserve the power to modify or terminate a contract unilaterally only by writing such power into the contract as a specific provision. Indeed, the very fact that termination and modification clauses are commonly found in government contracts suggests that a government's capacity to modify or terminate agreements unilaterally derives from specific contract provisions, not from inherent state power.



## SLACKAHEAD

### READING HABIT MATERIAL - 14

Nico Frijda writes that emotions are governed by a psychological principle called the “law of apparent reality”: emotions are elicited only by events appraised as real, and the intensity of these emotions corresponds to the degree to which these events are appraised as real. This observation seems psychologically plausible, but emotional responses elicited by works of art raise counterexamples.

Frijda’s law accounts for my panic if I am afraid of snakes and see an object I correctly appraise as a rattlesnake, and also for my identical response if I see a coiled garden hose I mistakenly perceive to be a snake. However, suppose I am watching a movie and see a snake gliding toward its victim. Surely I might experience the same emotions of panic and distress, though I know the snake is not real. These responses extend even to phenomena not conventionally accepted as real. A movie about ghosts, for example, may be terrifying to all viewers, even those who firmly reject the possibility of ghosts, but this is not because viewers are confusing cinematic depiction with reality. Moreover, I can feel strong emotions in response to objects of art that are interpretations, rather than representations, of reality: I am moved by Mozart’s *Requiem*, but I know that I am not at a real funeral. However, if Frijda’s law is to explain all emotional reactions, there should be no emotional response at all to aesthetic objects or events, because we know they are not real in the way a living rattlesnake is real.

Most psychologists, perplexed by the feelings they acknowledge are aroused by aesthetic experience, have claimed that these emotions are genuine, but different in kind from nonaesthetic emotions. This, however, is a descriptive distinction rather than



an empirical observation and consequently lacks explanatory value. On the other hand, Gombrich argues that emotional responses to art are ersatz; art triggers remembrances of previously experienced emotions. These debates have prompted the psychologist Radford to argue that people do experience real melancholy or joy in responding to art, but that these are irrational responses precisely because people know they are reacting to illusory stimuli. Frijda's law does not help us to untangle these positions, since it simply implies that events we recognize as being represented rather than real cannot elicit emotion in the first place.

Frijda does suggest that a vivid imagination has "properties of reality"—implying, without explanation, that we make aesthetic objects or events "real" in the act of experiencing them. However, as Scruton argues, a necessary characteristic of the imaginative construction that can occur in an emotional response to art is that the person knows he or she is pretending. This is what distinguishes imagination from psychotic fantasy.



## SLACKAHEAD

### READING HABIT MATERIAL - 15

Although bacteria are unicellular and among the simplest autonomous forms of life, they show a remarkable ability to sense their environment. They are attracted to materials they need and are repelled by harmful substances. Most types of bacteria swim very erratically: short smooth runs in relatively straight lines are followed by brief tumbles, after which the bacteria shoot off in random directions. This leaves researchers with the question of how such bacteria find their way to an attractant such as food or, in the case of photosynthetic bacteria, light, if their swimming pattern consists only of smooth runs and tumbles, the latter resulting in random changes in direction.

One clue comes from the observation that when a chemical attractant is added to a suspension of such bacteria, the bacteria swim along a gradient of the attractant, from an area where the concentration of the attractant is weaker to an area where it is stronger. As they do so, their swimming is characterized by a decrease in tumbling and an increase in straight runs over relatively longer distances. As the bacteria encounter increasing concentrations of the attractant, their tendency to tumble is suppressed, whereas tumbling increases whenever they move away from the attractant. The net effect is that runs in the direction of higher concentrations of the attractant become longer and straighter as a result of the suppression of tumbling, whereas runs away from it are shortened by an increased tendency of the bacteria to tumble and change direction.

Biologists have proposed two mechanisms that bacteria might use in detecting changes in the concentration of a chemical attractant. First, a bacterium might compare the concentration of a chemical at the front and back of its cell body simultaneously. If



the concentration is higher at the front of the cell, then it knows it is moving up the concentration gradient, from an area where the concentration is lower to an area where it is higher. Alternatively, it might measure the concentration at one instant and again after a brief interval, in which case the bacterium must retain a memory of the initial concentration. Researchers reasoned that if bacteria do compare concentrations at different times, then when suddenly exposed to a uniformly high concentration of an attractant, the cells would behave as if they were swimming up a concentration gradient, with long, smooth runs and relatively few tumbles. If, on the other hand, bacteria detect a chemical gradient by measuring it simultaneously at two distinct points, front and back, on the cell body, they would not respond to the jump in concentration because the concentration of the attractant in front and back of the cells, though high, would be uniform. Experimental evidence suggests that bacteria compare concentrations at different times.



## SLACKAHEAD

### READING HABIT MATERIAL - 16

Anthropologist David Mandelbaum makes a distinction between life-passage studies and life-history studies which emerged primarily out of research concerning Native Americans. Life-passage studies, he says, "emphasize the requirements of society, showing how groups socialize and enculturate their young in order to make them into viable members of society." Life histories, however, "emphasize the experiences and requirements of the individual, how the person copes with society rather than how society copes with the stream of individuals." Life-passage studies bring out the general cultural characteristics and commonalities that broadly define a culture, but are unconcerned with an individual's choices or how the individual perceives and responds to the demands and expectations imposed by the constraints of his or her culture. This distinction can clearly be seen in the autobiographies of Native American women.

For example, some early recorded autobiographies, such as *The Autobiography of a Fox Indian Woman*, a life passage recorded by anthropologist Truman Michelson, emphasizes prescribed roles. The narrator presents her story in a way that conforms with tribal expectations. Michelson's work is valuable as ethnography, as a reflection of the day-to-day responsibilities of Mesquakie women, yet as is often the case with life-passage studies, it presents little of the central character's psychological motivation. The Fox woman's life story focuses on her tribal education and integration into the ways of her people, and relates only what Michelson ultimately decided was worth preserving. The difference between the two types of studies is often the result of the amount of control the narrator maintains over the material; autobiographies in which there are no recorder-editors are far more reflective of



the life-history category, for there are no outsiders shaping the story to reflect their preconceived notions of what the general cultural patterns are.

For example, in Maria Campbell's account of growing up as a Canadian Metis who was influenced strongly, and often negatively, by the non-Native American world around her, one learns a great deal about the life of Native American women, but Campbell's individual story, which is told to us directly, is always the center of her narrative. Clearly it is important to her to communicate to the audience what her experiences as a Native American have been. Through Campbell's story of her family the reader learns of the effect of poverty and prejudice on a people. The reader becomes an intimate of Campbell the writer, sharing her pain and celebrating her small victories. Although Campbell's book is written as a life history (the dramatic moments, the frustrations, and the fears are clearly hers), it reveals much about ethnic relations in Canada while reflecting the period in which it was written.



## SLACKAHEAD

### READING HABIT MATERIAL - 17

Until recently many astronomers believed that asteroids travel about the solar system unaccompanied by satellites. These astronomers assumed this because they considered asteroid-satellite systems inherently unstable. Theoreticians could have told them otherwise: even minuscule bodies in the solar system can theoretically have satellites, as long as everything is in proper scale. If a bowling ball were orbiting about the Sun in the asteroid belt, it could have a pebble orbiting it as far away as a few hundred radii (or about 50 meters) without losing the pebble to the Sun's gravitational pull.

Observations now suggest that asteroid satellites may exist not only in theory but also in reality. Several astronomers have noticed, while watching asteroids pass briefly in front of stars, that something besides the known asteroid sometimes blocks out the star as well. Is that something a satellite?

The most convincing such report concerns the asteroid Herculina, which was due to pass in front of a star in 1978. Astronomers waiting for the predicted event found not just one occultation, or eclipse, of the star, but two distinct drops in brightness. One was the predicted occultation, exactly on time. The other, lasting about five seconds, preceded the predicted event by about two minutes. The presence of a secondary body near Herculina thus seemed strongly indicated. To cause the secondary occultation, an unseen satellite would have to be about 45 kilometers in diameter, a quarter of the size of Herculina, and at a distance of 990 kilometers from the asteroid at the time. These values are within theoretical bounds, and such an asteroid-satellite pair could be stable.



With the Herculina event, apparent secondary occultations became "respectable"—and more commonly reported. In fact, so common did reports of secondary events become that they are now simply too numerous for all of them to be accurate. Even if every asteroid has as many satellites as can be fitted around it without an undue number of collisions, only one in every hundred primary occultations would be accompanied by a secondary event (one in every thousand if asteroid satellites system resembled those of the planets).

Yet even astronomers who find the case for asteroid satellites unconvincing at present say they would change their minds if a photoelectric record were made of a well-behaved secondary event. By "well-behaved" they mean that during occultation the observed brightness must drop sharply as the star winks out and must rise sharply as it reappears from behind the obstructing object, but the brightness during the secondary occultation must drop to that of the asteroid, no higher and no lower. This would make it extremely unlikely that an airplane or a glitch in the instruments was masquerading as an occulting body.



## SLACKAHEAD

### READING HABIT MATERIAL - 18

Historians attempting to explain how scientific work was done in the laboratory of the seventeenth-century chemist and natural philosopher Robert Boyle must address a fundamental discrepancy between how such experimentation was actually performed and the seventeenth-century rhetoric describing it. Leaders of the new Royal Society of London in the 1660s insisted that authentic science depended upon actual experiments performed, observed, and recorded by the scientists themselves. Rejecting the traditional contempt for manual operations, these scientists, all members of the English upper class, were not to think themselves demeaned by the mucking about with chemicals, furnaces, and pumps; rather, the willingness of each of them to become, as Boyle himself said, a mere "drudge" and "under-builder" in the search for God's truth in nature was taken as a sign of their nobility and Christian piety.

This rhetoric has been so effective that one modern historian assures us that Boyle himself actually performed all of the thousand or more experiments he reported. In fact, due to poor eyesight, fragile health, and frequent absences from his laboratory, Boyle turned over much of the labor of obtaining and recording experimental results to paid technicians, although published accounts of the experiments rarely, if ever, acknowledged the technicians' contributions. Nor was Boyle unique in relying on technicians without publicly crediting their work.

Why were the contributions of these technicians not recognized by their employers? One reason is the historical tendency, which



has persisted into the twentieth century, to view scientific discovery as resulting from momentary flashes of individual insight rather than from extended periods of cooperative work by individuals with varying levels of knowledge and skill. Moreover, despite the clamor of seventeenth-century scientific rhetoric commanding a hands-on approach, science was still overwhelmingly an activity of the English upper class, and the traditional contempt that genteel society maintained for manual labor was pervasive and deeply rooted. Finally, all of Boyle's technicians were "servants," which in seventeenth-century usage meant anyone who worked for pay. To seventeenth-century sensibilities, the wage relationship was charged with political significance. Servants, meaning wage earners, were excluded from the franchise because they were perceived as ultimately dependent on their wages and thus controlled by the will of their employers. Technicians remained invisible in the political economy of science for the same reasons that underlay servants' general political exclusion. The technicians' contribution, their observations and judgment, if acknowledged, would not have been perceived in the larger scientific community as objective because the technicians were dependent on the wages paid to them by their employers. Servants might have made the apparatus work, but their contributions to the making of scientific knowledge were largely—and conveniently—ignored by their employers.



## SLACKAHEAD

### READING HABIT MATERIAL - 19

One type of violation of the antitrust laws is the abuse of monopoly power. Monopoly power is the ability of a firm to raise its prices above the competitive level—that is, above the level that would exist naturally if several firms had to compete—without driving away so many customers as to make the price increase unprofitable. In order to show that a firm has abused monopoly power, and thereby violated the antitrust laws, two essential facts must be established. First, a firm must be shown to possess monopoly power, and second, that power must have been used to exclude competition in the monopolized market or related markets.

The price a firm may charge for its product is constrained by the availability of close substitutes for the product. If a firm attempts to charge a higher price—a supracompetitive price—consumers will turn to other firms able to supply substitute products at competitive prices. If a firm provides a large percentage of the products actually or potentially available, however, customers may find it difficult to buy from alternative suppliers.

Consequently, a firm with a large share of the relevant market of substitutable products may be able to raise its price without losing many customers. For this reason courts often use market share as a rough indicator of monopoly power.

Supracompetitive prices are associated with a loss of consumers' welfare because such prices force some consumers to buy a less attractive mix of products than they would ordinarily buy.

Supracompetitive prices, however, do not themselves constitute an abuse of monopoly power. Antitrust laws do not attempt to counter the mere existence of monopoly power, or even the use of monopoly power to extract extraordinarily high profits. For



example, a firm enjoying economies of scale—that is, low unit production costs due to high volume—does not violate the antitrust laws when it obtains a large market share by charging prices that are profitable but so low that its smaller rivals cannot survive. If the antitrust laws posed disincentives to the existence and growth of such firms, the laws could impair consumers' welfare. Even if the firm, upon acquiring monopoly power, chose to raise prices in order to increase profits, it would not be in violation of the antitrust laws.

The antitrust prohibitions focus instead on abuses of monopoly power that exclude competition in the monopolized market or involve leverage—the use of power in one market to reduce competition in another. One such forbidden practice is a tying arrangement, in which a monopolist conditions the sale of a product in one market on the buyer's purchase of another product in a different market. For example, a firm enjoying a monopoly in the communications systems market might not sell its products to a consumer unless that customer also buys its computer systems, which are competing with other firms' computer systems.

The focus on the abuse of monopoly power, rather than on monopoly itself, follows from the primary purpose of the antitrust laws: to promote consumers' welfare through assurance of the quality and quantity of products available to consumers.



## SLACKAHEAD

### READING HABIT MATERIAL - 20

Amsden has divided Navajo weaving into four distinct styles. He argues that three of them can be identified by the type of design used to form horizontal bands: colored strips, zigzags, or diamonds. The fourth, or bordered, style he identifies by a distinct border surrounding centrally placed, dominating figures.

Amsden believes that the diamond style appeared after 1869 when, under Anglo influence and encouragement, the blanket became a rug with larger designs and bolder lines. The bordered style appeared about 1890, and, Amsden argues, it reflects the greatest number of Anglo influences on the newly emerging rug business. The Anglo desire that anything with a graphic designs have a top, bottom, and border is a cultural preference that the Navajo abhorred, as evidenced, he suggests, by the fact that in early bordered specimens strips of color unexpectedly break through the enclosing pattern.

Amsden argues that the bordered rug represents a radical break with previous styles. He asserts that the border changed the artistic problem facing weavers: a blank area suggests the use of isolated figures, while traditional, banded Navajo designs were continuous and did not use isolated figures. The old patterns alternated horizontal decorative zones in a regular order.

Amsden's view raises several questions. First, what is involved in altering artistic styles? Some studies suggest that artisans' motor habits and thought processes must be revised when a style changes precipitously. In the evolution of Navajo weaving, however, no radical revisions in the way articles are produced need be assumed. After all, all weaving subordinates design to the physical limitations created by the process of weaving, which



includes creating an edge or border. The habits required to make decorative borders are, therefore, latent and easily brought to the surface.

Second, is the relationship between the banded and bordered styles as simple as Amsden suggests? He assumes that a break in style is a break in psychology. But if style results from constant quests for invention, such stylistic breaks are inevitable. When a style has exhausted the possibilities inherent in its principles, artists cast about for new, but not necessarily alien, principles. Navajo weaving may have reached this turning point prior to 1890.

Third, is there really a significant stylistic gap? Two other styles lie between the banded styles and the bordered styles. They suggest that disintegration of the bands may have altered visual and motor habits and prepared the way for a border filled with separate units. In the Chief White Antelope blanket, dated prior to 1865, ten years before the first Anglo trading post on the Navajo reservation, whole and partial diamonds interrupt the flowing design and become separate forms. Parts of diamonds arranged vertically at each side may be seen to anticipate the border.



## SLACKAHEAD

### READING HABIT MATERIAL - 21

The Taft-Hartley Act, passed by the United States Congress in 1947, gave states the power to enact "right-to-work" legislation that prohibits union shop agreements. According to such an agreement, a labor union negotiates wages and working conditions for all workers in a business, and all workers are required to belong to the union. Since 1947, 20 states have adopted right-to-work laws. Much of the literature concerning right-to-work laws implies that such legislation has not actually had a significant impact. This point of view, however, has not gone uncriticized. Thomas V Carroll has proposed that the conclusions drawn by previous researchers are attributable to their myopic focus on the premise that, unless right-to-work laws significantly reduce union membership within a state, they have no effect. Carroll argues that the right-to-work laws "do matter" in that such laws generate differences in real wages across states. Specifically, Carroll indicates that while right-to-work laws may not "destroy" unions by reducing the absolute number of unionized workers, they do impede the spread of unions and thereby reduce wages within right-to-work states. Because the countervailing power of unions is weakened in right-to-work states, manufacturers and their suppliers can act cohesively in competitive labor markets, thus lowering wages in the affected industries.

Such a finding has important implications regarding the demographics of employment and wages in right-to-work states. Specifically, if right-to-work laws lower wages by weakening union power, minority workers can be expected to suffer a relatively greater economic disadvantage in right-to-work states than in union shop states. This is so because, contrary to what was once



thought, union tend to have a significant positive impact on the economic position of minority workers, especially Black workers, relative to White workers. Most studies concerned with the impact of unionism on the Black worker's economic position relative to the White worker's have concentrated on the changes in Black wages due to union membership. That is, they have concentrated on union *versus* nonunion groups. In a pioneering study, however, Ashenfelter finds that these studies overlook an important fact: although craft unionism increase the differential between the wages of White workers and Black workers due to the traditional exclusion of minority workers from unions in the craft sectors of the labor market, strong positive wage gains are made by Black workers within industrial unions. In fact, Ashenfelter estimates that industrial unionism decreases the differential between the wages of Black workers and White workers by about 3 percent. If state right-to-work laws weaken the economic power of unions to raise wages, Black workers will experience a disproportionate decline in their relative wage positions. Black workers in right-to-work states would therefore experience a decline in their relative economic positions unless there is strong economic growth in right-to-work states, creating labor shortages and thereby driving up wages.



## SLACKAHEAD

### READING HABIT MATERIAL - 22

China, led to expanded opportunities for both Western women and Chinese women. The presence of Western women as medical missionaries in China was made possible by certain changes within the Western missionary movement. Beginning in the 1870s, increasingly large numbers of women were forming women's foreign mission societies dedicated to the support of women's foreign mission work. Beyond giving the women who organized the societies a formal activity outside their home circles, these organizations enabled an increasing number of single women missionaries (as opposed to women who were part of the more typical husband-wife missionary teams) to work abroad. Before the formation of these women's organizations, mission funds had been collected by ministers and other church leaders, most of whom emphasized local parish work. What money was spent on foreign missions was under the control of exclusively male foreign mission boards whose members were uniformly uneasy about the new idea of sending single women out into the mission field. But as women's groups began raising impressive amounts of money donated specifically in support of single women missionaries, the home churches bowed both to women's changing roles at home and to increasing numbers of single professional missionary women abroad.

Although the idea of employing a woman physician was a daring one for most Western missionaries in China, the advantages of a well-trained Western woman physician could not be ignored by Canton mission hospital administrators. A woman physician could attend women patients without offending any of the accepted conventions of female modesty. Eventually, some of these women were able to found and head separate women's medical



institutions, thereby gaining access to professional responsibilities far beyond those available to them at home.

These developments also led to the attainment of valuable training and status by a significant number of Chinese women. The presence of women physicians in Canton mission hospitals led many Chinese women to avail themselves of Western medicine who might otherwise have failed to do so because of their culture's emphasis on physical modesty. In order to provide enough women physicians for these patients, growing numbers of young Chinese women were given instruction in medicine. This enabled them to earn an independent income, something that was then largely unavailable to women within traditional Chinese society. Many women graduates were eventually able to go out on their own into private practice, freeing themselves of dependence upon the mission community.

The most important result of these opportunities was the establishment of clear evidence of women's abilities and strengths, clear reasons for affording women expanded opportunities, and clear role models for how these abilities and responsibilities might be exercised.



## SLACKAHEAD

### READING HABIT MATERIAL - 23

In recent years the early music movement, which advocates performing a work as it was performed at the time of its composition, has taken on the character of a crusade, particularly as it has moved beyond the sphere of medieval and baroque music and into music from the late eighteenth and early nineteenth centuries by composers such as Mozart and Beethoven. Granted, knowledge about the experience of playing old music on now-obsolete instruments has been of inestimable value to scholars. Nevertheless, the early music approach to performance raises profound and troubling questions.

Early music advocates assume that composers write only for the instruments available to them, but evidence suggests that composers of Beethoven's stature imagined extraordinarily high and low notes as part of their compositions, even when they recognized that such notes could not be played on instruments available at the time. In the score of Beethoven's first piano concerto, there is a "wrong" note, a high F-natural where the melody obviously calls for a high F-sharp, but pianos did not have this high an F-sharp when Beethoven composed the concerto. Because Beethoven once expressed a desire to revise his early works to exploit the extended range of pianos that became available to him some years later, it seems likely that he would have played the F-sharp if given the opportunity. To use a piano exactly contemporary with the work's composition would require playing a note that was probably frustrating for Beethoven himself to have had to play.

In addition, early music advocates often inadvertently divorce music and its performance from the life of which they were, and are, a part. The discovery that Haydn's and Mozart's symphonies



were conducted during their lifetimes by a pianist who played the chords to keep the orchestra together has given rise to early music recordings in which a piano can be heard obtrusively in the foreground, despite evidence indicating that the orchestral piano was virtually inaudible to audiences at eighteenth-century concerts and was dropped as musically unnecessary when a better way to beat time was found. And although in the early nineteenth century the first three movements (sections) of Mozart's and Beethoven's symphonies were often played faster, and the last movement slower than today, this difference can readily be explained by the fact that at that time audiences applauded at the end of each movement, rather than withholding applause until the end of the entire work. As a result, musicians were not forced into extra brilliance in the finale in order to generate applause, as they are now. To restore the original tempo of these symphonies represents an irrational denial of the fact that our concepts of musical intensity and excitement have quite simply, changed.



## SLACKAHEAD

### READING HABIT MATERIAL - 24

Although the United States steel industry faces widely publicized economic problems that have eroded its steel production capacity, not all branches of the industry have been equally affected. The steel industry is not monolithic: it includes integrated producers, minimills, and specialty-steel mills. The integrated producers start with iron ore and coal and produce a wide assortment of shaped steels. The minimills reprocess scrap steel into a limited range of low-quality products, such as reinforcing rods for concrete. The specialty-steel mills are similar to minimills in that they tend to be smaller than the integrated producers and are based on scrap, but they manufacture much more expensive products than minimills do and commonly have an active in-house research-and-development effort.

Both minimills and specialty-steel mills have succeeded in avoiding the worst of the economic difficulties that are afflicting integrated steel producers, and some of the mills are quite profitable. Both take advantage of new technology for refining and casting steel, such as continuous casting, as soon as it becomes available. The minimills concentrate on producing a narrow range of products for sale in their immediate geographic area, whereas specialty-steel mills preserve flexibility in their operations in order to fulfill a customer's particular specifications.

Among the factors that constrain the competitiveness of integrated producers are excessive labor, energy, and capital costs, as well as manufacturing inflexibility. Their equipment is old and less automated, and does not incorporate many of the latest refinement in steelmaking technology. (For example, only about half of the United States integrated producers have continuous casters, which combine pouring and rolling into one



operation and thus save the cost of separate rolling equipment.) One might conclude that the older labor-intensive machinery still operating in United States integrated plants is at fault for the poor performance of the United States industry, but this cannot explain why Japanese integrated producers, who produce a higher-quality product using less energy and labor, are also experiencing economic trouble. The fact is that the common technological denominator of integrated producers is an inherently inefficient process that is still rooted in the nineteenth century.

Integrated producers have been unable to compete successfully with minimills because the minimills, like specialty-steel mills, have dispensed almost entirely with the archaic energy and capital-intensive front end of integrated steelmaking: the iron-smelting process, including the mining and preparation of the raw materials and the blast-furnace operation. In addition, minimills have found a profitable way to market steel products: as indicated above, they sell their finished products locally, thereby reducing transportation costs, and concentrate on a limited range of shapes and sizes within a narrow group of products that can be manufactured economically. For these reasons, minimills have been able to avoid the economic decline affecting integrated steel producers.



## SLACKAHEAD

### READING HABIT MATERIAL - 25

The labor force is often organized as if workers had no family responsibilities. Preschool-age children need full-time care; children in primary school need care after school and during school vacations. Although day-care services can resolve some scheduling conflicts between home and office, workers cannot always find or afford suitable care. Even when they obtain such care, parents must still cope with emergencies, such as illnesses, that keep children at home. Moreover, children need more than tending; they also need meaningful time with their parents. Conventional full-time workdays, especially when combined with unavoidable household duties, are too inflexible for parents with primary child-care responsibility.

Although a small but increasing number of working men are single parents, those barriers against successful participation in the labor market that are related to primary child-care responsibilities mainly disadvantage women. Even in families where both parents work, cultural pressures are traditionally much greater on mothers than on fathers to bear the primary child-rearing responsibilities.

In reconciling child-rearing responsibilities with participation in the labor market, many working mothers are forced to make compromises. For example, approximately one-third of all working mothers are employed only part-time, even though part-time jobs are dramatically underpaid and often less desirable in comparison to full-time employment. Even though part-time work is usually available only in occupations offering minimal employee responsibility and little opportunity for advancement or self-enrichment, such employment does allow many women the time



and flexibility to fulfill their family duties, but only at the expense of the advantages associated with full-time employment.

Moreover, even mothers with full-time employment must compromise opportunities in order to adjust to barriers against parents in the labor market. Many choose jobs entailing little challenge or responsibility or those offering flexible scheduling, often available only in poorly paid positions, while other working mothers, although willing and able to assume as much responsibility as people without children, find that their need to spend regular and predictable time with their children inevitably causes them to lose career opportunities to those without such demands. Thus, women in education are more likely to become teachers than school administrators, whose more conventional full-time work schedules do not correspond to the schedules of school-age children, while female lawyers are more likely to practice law in trusts and estates, where they can control their work schedules, than in litigation, where they cannot.

Nonprofessional women are concentrated in secretarial work and department store sales, where their absences can be covered easily by substitutes and where they can enter and leave the work force with little loss, since the jobs offer so little personal gain. Indeed, as long as the labor market remains hostile to parents, and family roles continue to be allocated on the basis of gender, women will be seriously disadvantaged in that labor market.



## SLACKAHEAD

### READING HABIT MATERIAL - 26

Critics have long been puzzled by the inner contradictions of major characters in John Webster's tragedies. In his *The Duchess of Malfi*, for instance, the Duchess is "good" in demonstrating the obvious tenderness and sincerity of her love for Antonio, but "bad" in ignoring the wishes and welfare of her family and in making religion a "cloak" hiding worldly self-indulgence. Bosola is "bad" in serving Ferdinand, "good" in turning the Duchess' thoughts toward heaven and in planning to avenge her murder. The ancient Greek philosopher Aristotle implied that such contradictions are virtually essential to the tragic personality, and yet critics keep coming back to this element of inconsistency as though it were an eccentric feature of Webster's own tragic vision.

The problem is that, as an Elizabethan playwright, Webster has become a prisoner of our critical presuppositions. We have, in recent years, been dazzled by the way the earlier Renaissance and medieval theater, particularly the morality play, illuminates Elizabethan drama. We now understand how the habit of mind that saw the world as a battleground between good and evil produced the morality play. Morality plays allegorized that conflict by presenting characters whose actions were defined as the embodiment of good or evil. This model of reality lived on, overlaid by different conventions, in the most sophisticated Elizabethan works of the following age. Yet Webster seems not to have been as heavily influenced by the morality play's model of reality as were his Elizabethan contemporaries; he was apparently more sensitive to the more morally complicated Italian drama than to these English sources. Consequently, his characters cannot be evaluated according to reductive formulas of good and evil, which is precisely what modern critics have tried to



do. They choose what seem to be the most promising of the contradictor values that are dramatized in the play, and treat those values as if they were the only basis for analyzing the moral development of the play's major characters, attributing the inconsistencies in a character's behavior to artistic incompetence on Webster's part. The lack of consistency in Webster's characters can be better understood if we recognize that the ambiguity at the heart of his tragic vision lies not in the external world but in the duality of human nature. Webster establishes tension in his plays by setting up conflicting systems of value that appear immoral only when one value system is viewed exclusively from the perspective of the other. He presents us not only with characters that we condemn intellectually or ethically and at the same time impulsively approve of, but also with judgments we must accept as logically sound and yet find emotionally repulsive. The dilemma is not only dramatic: it is tragic, because the conflict is irreconcilable, and because it is ours as much as that of the characters.



## SLACKAHEAD

### READING HABIT MATERIAL - 27

Cultivation of a single crop on a given tract of land leads eventually to decreased yields. One reason for this is that harmful bacterial phytopathogens, organisms parasitic on plant hosts, increase in the soil surrounding plant roots. The problem can be cured by crop rotation, denying the pathogens a suitable host for a period of time. However, even if crops are not rotated, the severity of diseases brought on by such phytopathogens often decreases after a number of years as the microbial population of the soil changes and the soil becomes "suppressive" to those diseases. While there may be many reasons for this phenomenon, it is clear that levels of certain bacteria, such as *Pseudomonas fluorescens*, a bacterium antagonistic to a number of harmful phytopathogens, are greater in suppressive than in nonsuppressive soil. This suggests that the presence of such bacteria suppresses phytopathogens. There is now considerable experimental support for this view. Wheat yield increases of 27 percent have been obtained in field trials by treatment of wheat seeds with fluorescent pseudomonads. Similar treatment of sugar beets, cotton, and potatoes has had similar results.

These improvements in crop yields through the application of *Pseudomonas fluorescens* suggest that agriculture could benefit from the use of bacteria genetically altered for specific purposes. For example, a form of phytopathogen altered to remove its harmful properties could be released into the environment in quantities favorable to its competing with and eventually excluding the harmful normal strain. Some experiments suggest that deliberately releasing altered nonpathogenic *Pseudomonas syringae* could crowd out the nonaltered variety that causes frost damage. Opponents of such research have objected that the



deliberate and large-scale release of genetically altered bacteria might have deleterious results. Proponents, on the other hand, argue that this particular strain is altered only by the removal of the gene responsible for the strain's propensity to cause frost damage, thereby rendering it safer than the phytopathogen from which it was derived.

Some proponents have gone further and suggest that genetic alteration techniques could create organisms with totally new combinations of desirable traits not found in nature. For example, genes responsible for production of insecticidal compounds have been transposed from other bacteria into pseudomonads that colonize corn roots. Experiments of this kind are difficult and require great care: such bacteria are developed in highly artificial environments and may not compete well with natural soil bacteria. Nevertheless, proponents contend that the prospects for improved agriculture through such methods seem excellent. These prospects lead many to hope that current efforts to assess the risks of deliberate release of altered microorganisms will successfully answer the concerns of opponents and create a climate in which such research can go forward without undue impediment.



## SLACKAHEAD

### READING HABIT MATERIAL - 28

In 1887 the Dawes Act legislated wide-scale private ownership of reservation lands in the United States for Native Americans. The act allotted plots of 80 acres to each Native American adult.

However, the Native Americans were not granted outright title to their lands. The act defined each grant as a "trust patent," meaning that the Bureau of Indian Affairs (BIA), the governmental agency in charge of administering policy regarding Native Americans, would hold the allotted land in trust for 25 years, during which time the Native American owners could use, but not alienate (sell) the land. After the 25-year period, the Native American allottee would receive a "fee patent" awarding full legal ownership of the land.

Two main reasons were advanced for the restriction on the Native Americans' ability to sell their lands. First, it was claimed that free alienability would lead to immediate transfer of large amounts of former reservation land to non-Native Americans, consequently threatening the traditional way of life on those reservations. A second objection to free alienation was that Native Americans were unaccustomed to, and did not desire, a system of private landownership. Their custom, it was said, favored communal use of land.

However, both of these arguments bear only on the transfer of Native American lands to non-Native Americans: neither offers a reason for prohibiting Native Americans from transferring land among themselves. Selling land to each other would not threaten the Native American culture. Additionally, if communal land use remained preferable to Native Americans after allotment, free alienability would have allowed allottees to sell their lands back to the tribe.



When stated rationales for government policies prove empty, using an interest-group model often provides an explanation. While neither Native Americans nor the potential non-Native American purchasers benefited from the restraint on alienation contained in the Dawes Act, one clearly defined group did benefit: the BIA bureaucrats. It has been convincingly demonstrated that bureaucrats seek to maximize the size of their staffs and their budgets in order to compensate for the lack of other sources of fulfillment, such as power and prestige. Additionally, politicians tend to favor the growth of governmental bureaucracy because such growth provides increased opportunity for the exercise of political patronage. The restraint on alienation vastly increased the amount of work, and hence the budgets, necessary to implement the statute. Until allotment was ended in 1934, granting fee patents and leasing Native American lands were among the principal activities of the United States government. One hypothesis, then, for the temporary restriction on alienation in the Dawes Act is that it reflected a compromise between non-Native Americans favoring immediate alienability so they could purchase land and the BIA bureaucrats who administered the privatization system.



## SLACKAHEAD

### READING HABIT MATERIAL – 29

The law-and-literature movement claims to have introduced a valuable pedagogical innovation into legal study: instructing students in techniques of literary analysis for the purpose of interpreting laws and in the reciprocal use of legal analysis for the purpose of interpreting literary texts. The results, according to advocates, are not only conceptual breakthroughs in both law and literature but also more sensitive and humane lawyers. Whatever the truth of this last claim, there can be no doubt that the movement is a success: law-and-literature is an accepted subject in law journals and in leading law schools. Indeed, one indication of the movement's strength is the fact that its most distinguished critic, Richard A. Posner, paradoxically ends up expressing qualified support for the movement in a recent study in which he systematically refutes the writings of its leading legal scholars and cooperating literary critics.

Critiquing the movement's assumption that lawyers can offer special insights into literature that deals with legal matters, Posner points out that writers of literature use the law loosely to convey a particular idea or as a metaphor for the workings of the society envisioned in their fiction. Legal questions per se, about which a lawyer might instruct readers, are seldom at issue in literature. This is why practitioners of law-and-literature end up discussing the law itself far less than one might suppose.

Movement leader James White, for example, in his discussion of arguments in the *Iliad*, barely touches on law, and then so generally as to render himself vulnerable to Posner's devastating remark that "any argument can be analogized to a legal dispute."

Similarly, the notion that literary criticism can be helpful in interpreting law is problematic. Posner argues that literary



criticism in general aims at exploring richness and variety of meaning in texts, whereas legal interpretation aims at discovering a single meaning. A literary approach can thus only confuse the task of interpreting the law, especially if one adopts current fashions like *deconstruction*, which holds that all texts are inherently uninterpretable.

Nevertheless, Posner writes that law-and-literature is a field with "promise". Why? Perhaps, recognizing the success of a movement that, in the past, has singled him out for abuse, he is attempting to appease his detractors, paying obeisance to the movement's institutional success by declaring that it "deserves a place in legal research" while leaving it to others to draw the conclusion from his cogent analysis that it is an entirely factitious undertaking, deserving of no intellectual respect whatsoever. As a result, his work stands both as a rebuttal of law-and-literature and as a tribute to the power it has come to exercise in academic circles.



## SLACKAHEAD

### READING HABIT MATERIAL - 30

A recent generation of historians of science, far from portraying accepted scientific views as objectively accurate reflections of a natural world, explain the acceptance of such views in terms of the ideological biases of certain influential scientists or the institutional and rhetorical power such scientists wield. As an example of ideological bias, it has been argued that Pasteur rejected the theory of spontaneous generation not because of experimental evidence but because he rejected the materialist ideology implicit in that doctrine. These historians seem to find allies in certain philosophers of science who argue that scientific views are not imposed by reality but are free inventions of creative minds, and that scientific claims are never more than brave conjectures, always subject to inevitable future falsification. While these philosophers of science themselves would not be likely to have much truck with the recent historians, it is an easy step from their views to the extremism of the historians.

While this rejection of the traditional belief that scientific views are objective reflections of the world may be fashionable, it is deeply implausible. We now know, for example, that water is made of hydrogen and oxygen and that parents each contribute one-half of their children's complement of genes. I do not believe any serious-minded and informed person can claim that these statements are not factual descriptions of the world or that they will inevitably be falsified.

However, science's accumulation of lasting truths about the world is not by any means a straightforward matter. We certainly need to get beyond the naive view that the truth will automatically



reveal itself to any scientist who looks in the right direction; most often, in fact, a whole series of prior discoveries is needed to tease reality's truths from experiment and observation. And the philosophers of science mentioned above are quite right to argue that new scientific ideas often correct old ones by indicating errors and imprecision (as, say, Newton's ideas did to Kepler's). Nor would I deny that there are interesting questions to be answered about the social processes in which scientific activity is embedded. The persuasive processes by which particular scientific groups establish their experimental results as authoritative are themselves social activities and can be rewardingly studied as such. Indeed, much of the new work in the history of science has been extremely revealing about the institutional interactions and rhetorical devices that help determine whose results achieve prominence.

But one can accept all this without accepting the thesis that natural reality never plays any part at all in determining what scientists believe. What the new historians ought to be showing us is how those doctrines that do in fact fit reality work their way through the complex social processes of scientific activity to eventually receive general scientific acceptance.



## SLACKAHEAD

### READING HABIT MATERIAL - 31

Until recently, it was thought that the Cherokee, a Native American tribe, were compelled to assimilate Euro-American culture during the 1820s. During that decade, it was supposed, White missionaries arrived and, together with their part-Cherokee intermediaries, imposed the benefits of "civilization" on Cherokee tribes while the United States government actively promoted acculturalization by encouraging the Cherokee to switch from hunting to settled agriculture. This view was based on the assumption that the end of a Native American group's economic and political autonomy would automatically mean the end of its cultural autonomy as well.

William G. McLaughlin has recently argued that not only did Cherokee culture flourish during and after the 1820s, but the Cherokee themselves actively and continually reshaped their culture. Missionaries did have a decisive impact during these years, he argues, but that impact was far from what it was intended to be. The missionaries' tendency to cater to the interests of an acculturating part-Cherokee elite (who comprised the bulk of their converts) at the expense of the more traditionalist full-Cherokee majority created great intratribal tensions. As the elite initiated reforms designed to legitimize their own and the Cherokee Nation's place in the new republic of the United States, antimission Cherokee reacted by fostering revivals of traditional religious beliefs and practices. However, these revivals did not, according to McLaughlin, undermine the elitist reforms, but supplemented them with popular traditionalist counterparts.

Traditionalist Cherokee did not reject the elitist reforms outright, McLaughlin argues, simply because they recognized that there



was more than one way to use the skills the missionaries could provide them. As he quotes one group as saying, "We want our children to learn English so that the White man cannot cheat us." Many traditionalists Cherokee welcomed the missionaries for another reason: they perceived that it would be useful to have White allies. In the end, McLaughlin asserts, most members of the Cherokee council, including traditionalists, supported a move which preserved many of the reforms of the part-Cherokee elite but limited the activities and influence of the missionaries and other White settlers. According to McLaughlin, the identity and culture that resulted were distinctively Cherokee, yet reflected the larger political and social setting in which they flourished.

Because his work concentrates on the nineteenth century, McLaughlin unfortunately overlooks earlier sources of influence, such as eighteen-century White resident traders and neighbors, thus obscuring the relative impact of the missionaries of the 1820s in contributing to both acculturation and resistance to it among the Cherokee. However, McLaughlin is undoubtedly correct in recognizing that culture is an ongoing process rather than a static entity, and he has made a significant contribution to our understanding of how Cherokee culture changed while retaining its essential identity after confronting the missionaries.



## SLACKAHEAD

### READING HABIT MATERIAL - 32

In the history of nineteenth-century landscape painting in the United States, the Luminists are distinguished by their focus on atmosphere and light. The accepted view of Luminist paintings is that they are basically spiritual and imply a tranquil mysticism that contrasts with earlier American artists' concept of nature as dynamic and energetic. According to this view, the Luminist atmosphere, characterized by "pure and constant light," guides the onlooker toward a lucid transcendentalism, an idealized vision of the world.

What this view fails to do is to identify the true significance of this transcendental atmosphere in Luminist paintings. The prosaic factors that are revealed by a closer examination of these works suggest that the glowing appearance of nature in Luminism is actually a sign of nature's domestication, its adaptation to human use. The idealized Luminist atmosphere thus seems to convey, not an intensification of human responses to nature, but rather a muting of those emotions, like awe and fear, which untamed nature elicits.

One critic, in describing the spiritual quality of harbor scenes by Fitz Hugh Lane, an important Luminist, carefully notes that "at the peak of Luminist development in the 1850s and 1860s, spiritualism in America was extremely widespread." It is also true, however, that the 1850s and 1860s were a time of trade expansion. From 1848 until his death in 1865, Lane lived in a house with a view of the harbor of Gloucester, Massachusetts, and he made short trips to Maine, New York, Baltimore, and probably Puerto Rico. In all of these places he painted the harbors with their ships—the instruments of expanding trade.



Lane usually depicts places like New York Harbor, with ships at anchor, but even when he depicts more remote, less commercially active harbors, nature appears pastoral and domesticated rather than primitive or unexplored. The ships, rather than the surrounding landscapes—including the sea—are generally the active element in his pictures. For Lane the sea is, in effect, a canal or a trade route for commercial activity, not a free powerful element, as it is in the early pictures of his predecessor, Cole. For Lane nature is subdued, even when storms are approaching; thus, the sea is always a viable highway for the transport of goods. In sum, I consider Lane's sea simply an environment for human activity—nature no longer inviolate. The luminescence that Lane paints symbolizes nature's humbled state, for the light itself is as docile as the Luminist sea, and its tranquility in a sense signifies no more than good conditions on the highway to progress. Progress, probably even more than transcendence, is the secret message of Luminism. In a sense, Luminist pictures are an ideological justification of the atmosphere necessary for business, if also an exaggerated, idealistic rendering of that atmosphere.



## SLACKAHEAD

### READING HABIT MATERIAL - 33

After thirty years of investigation into cell genetics, researchers made startling discoveries in the 1960s and early 1970s which culminated in the development of processes, collectively known as recombinant deoxyribonucleic acid (rDNA) technology, for the active manipulation of a cell's genetic code. The technology has created excitement and controversy because it involves altering DNA—which contains the building blocks of the genetic code.

Using rDNA technology, scientists can transfer a portion of the DNA from one organism to a single living cell of another. The scientist chemically "snips" the DNA chain of the host cell at a predetermined point and attaches another piece of DNA from a donor cell at that place, creating a completely new organism.

Proponents of rDNA research and development claim that it will allow scientists to find cures for disease and to better understand how genetic information controls an organism's development.

They also see many other potentially practical benefits, especially in the pharmaceutical industry. Some corporations employing the new technology even claim that by the end of the century all major diseases will be treated with drugs derived from microorganisms created through rDNA technology.

Pharmaceutical products already developed, but not yet marketed, indicate that these predictions may be realized.

Proponents also cite nonmedical applications for this technology. Energy production and waste disposal may benefit: genetically altered organisms could convert sewage and other organic material into methane fuel. Agriculture might also take advantage of rDNA technology to produce new varieties of crops that resist foul weather, pests, and the effects of poor soil.



A major concern of the critics of rDNA research is that genetically altered microorganisms might escape from the laboratory.

Because these microorganisms are laboratory creations that, in all probability, do not occur in nature, their interaction with the natural world cannot be predicted with certainty. It is possible that they could cause previously unknown, perhaps incurable diseases. The effect of genetically altered microorganisms on the world's microbiological predator-prey relationships is another potentially serious problem pointed out by the opponents of rDNA research. Introducing a new species may disrupt or even destroy the existing ecosystem. The collapse of interdependent relationships among species, extrapolated to its extreme, could eventually result in the destruction of humanity.

Opponents of rDNA technology also cite ethical problems with it. For example, it gives scientists the power to instantly cross evolutionary and species boundaries that nature took millennia to establish. The implications of such power would become particularly profound if genetic engineers were to tinker with human genes, a practice that would bring us one step closer to Aldous Huxley's grim vision in *Brave New World* of a totalitarian society that engineers human beings to fulfill specific roles.



## SLACKAHEAD

### READING HABIT MATERIAL - 34

Gray marketing, the selling of trademarked products through channels of distribution not authorized by the trademark holder, can involve distribution of goods either within a market region or across market boundaries. Gray marketing within a market region ("channel flow diversion") occurs when manufacturer-authorized distributors sell trademarked goods to unauthorized distributors who then sell the goods to consumers within the same region. For example, quantity discounts from manufacturers may motivate authorized dealers to enter the gray market because they can purchase larger quantities of a product than they themselves intend to stock if they can sell the extra units through gray marketing channels.

When gray marketing occurs across market boundaries, it is typically in an international setting and may be called "parallel importing." Manufacturers often produce and sell products in more than one country and establish a network of authorized dealers in each country. Parallel importing occurs when trademarked goods intended for one country are diverted from proper channels (channel flow diversion) and then exported to unauthorized distributors in another country.

Trademark owners justifiably argue against gray marketing practices since such practices clearly jeopardize the goodwill established by trademark owners: consumers who purchase trademarked goods in the gray market do not get the same "extended product," which typically includes pre- and postsale service. Equally important, authorized distributors may cease to promote the product if it becomes available for much lower prices through unauthorized channels.



Current debate over regulation of gray marketing focuses on three disparate theories in trademark law that have been variously and confusingly applied to parallel importation cases: universality, exhaustion, and territoriality. The theory of universality holds that a trademark is only an indication of the source or origin of the product. This theory does not recognize the goodwill functions of a trademark. When the courts apply this theory, gray marketing practices are allowed to continue because the origin of the product remains the same regardless of the specific route of the product through the channel of distribution. The exhaustion theory holds that a trademark owner relinquishes all rights once a product has been sold. When this theory is applied, gray marketing practices are allowed to continue because the trademark owners' rights cease as soon as their products are sold to a distributor. The theory of territoriality holds that a trademark is effective in the country in which it is registered. Under the theory of territoriality, trademark owners can stop gray marketing practices in the registering countries on products bearing their trademarks. Since only the territoriality theory affords trademark owners any real legal protection against gray marketing practices, I believe it is inevitable as well as desirable that it will come to be consistently applied in gray marketing cases.



## SLACKAHEAD

### READING HABIT MATERIAL – 35

Any study of autobiographical narratives that appeared under the ostensible authorship of African American writers between 1760 and 1865 inevitably raises concerns about authenticity and interpretation. Should an autobiography whose written composition was literally out of the hands of its narrator be considered as the literary equivalent of those autobiographies that were authored independently by their subjects?

In many cases, the so-called edited narrative of an ex-slave ought to be treated as a ghostwritten account insofar as literary analysis is concerned, especially when it was composed by its editor from "a statement of facts" provided by an African American subject. Blassingame has taken pains to show that the editors of several of the more famous antebellum slave narratives were "noted for their integrity" and thus were unlikely to distort the facts given them by slave narrators. From a literary standpoint, however, it is not the moral integrity of these editors that is at issue but the linguistic, structural, and tonal integrity of the narratives they produce. Even if an editor faithfully reproduced the facts of a narrator's life, it was still the editor who decided what to make of these facts, how they should be emphasized, in what order they ought to be presented, and what was extraneous or germane. Readers of African American autobiography then and now have too readily accepted the presumption of these eighteenth- and nineteenth-century editors that experiential facts recounted orally could be recorded and sorted by an amanuensis-editor, taken out of their original contexts, and then published with editorial prefaces, footnotes, and appended commentary, all without compromising the validity



of the narrative as a product of an African American consciousness.

Transcribed narratives in which an editor explicitly delimits his or her role undoubtedly may be regarded as more authentic and reflective of the narrator's thought in action than those edited works that flesh out a statement of facts in ways unaccounted for. Still, it would be naïve to accord dictated oral narratives the same status as autobiographies composed and written by the subjects of the stories themselves. This point is illustrated by an analysis of Works Progress Administration interviews with ex-slaves in the 1930s that suggests that narrators often told interviewers what they seemed to want to hear. If it seemed impolitic for former slaves to tell all they knew and thought about the past to interviewers in the 1930s, the same could be said of escaped slaves on the run in the antebellum era. Dictated narratives, therefore, are literary texts whose authenticity is difficult to determine. Analysts should reserve close analytic readings for independently authored texts. Discussion of collaborative texts should take into account the conditions that governed their production.



## SLACKAHEAD

### READING HABIT MATERIAL – 36

A conventional view of nineteenth-century Britain holds that iron manufacturers and textile manufacturers from the north of England became the wealthiest and most powerful people in society after about 1832. According to Marxist historians, these industrialists were the target of the working class in its struggle for power. A new study by Rubinstein, however, suggests that the real wealth lay with the bankers and merchants of London. Rubinstein does not deny that a northern industrial elite existed but argues that it was consistently outnumbered and outdone by a London-based commercial elite. His claims are provocative and deserve consideration.

Rubinstein's claim about the location of wealth comes from his investigation of probate records. These indicate the value of personal property, excluding real property (buildings and land), left by individuals at death. It does seem as if large fortunes were more frequently made in commerce than in industry and, within industry, more frequently from alcohol or tobacco than from textiles or metal. However, such records do not unequivocally make Rubinstein's case. Uncertainties abound about how the probate rules for valuing assets were actually applied. Mills and factories, being real property, were clearly excluded: machinery may also have been, for the same reason. What the valuation conventions were for stock-in-trade (goods for sale) is also uncertain. It is possible that their probate values were much lower than their actual market value: cash or near-cash, such as bank balances or stocks, were, on the other hand, invariably considered at full face value. A further complication is that probate valuations probably took no notice of a business's goodwill (favor with the public) which, since it represents



expectations about future profit-making, would today very often be a large fraction of market value. Whether factors like these introduced systematic biases into the probate valuations of individuals with different types of businesses would be worth investigating.

The orthodox view that the wealthiest individuals were the most powerful is also questioned by Rubinstein's study. The problem for this orthodox view is that Rubinstein finds many millionaires who are totally unknown to nineteenth-century historians: the reason for their obscurity could be that they were not powerful. Indeed, Rubinstein dismisses any notion that great wealth had anything to do with entry into the governing elite, as represented by bishops, higher civil servants, and chairmen of manufacturing companies. The only requirements were university attendance and a father with a middle-class income.

Rubinstein, in another study, has begun to buttress his findings about the location of wealth by analyzing income tax returns, which reveal a geographical distribution of middle-class incomes similar to that of wealthy incomes revealed by probate records. But until further confirmatory investigation is done, his claims can only be considered partially convincing.



## SLACKAHEAD

### READING HABIT MATERIAL - 37

Many argue that recent developments in electronic technology such as computers and videotape have enabled artists to vary their forms of expression. For example, video art can now achieve images whose effect is produced by "digitalization": breaking up the picture using computerized information processing. Such new technologies create new ways of seeing and hearing by adding different dimensions to older forms, rather than replacing those forms. Consider *Locale*, a film about a modern dance company. The camera operator wore a Steadicam™, an uncomplicated device that allows a camera to be mounted on a person so that the camera remains steady no matter how the operator moves. The Steadicam™ captures the dance in ways impossible with traditional mounts. Such new equipment also allows for the preservation of previously unrecordable aspects of performances, thus enriching archives.

By Contrast, others claim that technology subverts the artistic enterprise: that artistic efforts achieved with machines preempt human creativity, rather than being inspired by it. The originality of musical performance, for example, might suffer, as musicians would be deprived of the opportunity to spontaneously change pieces of music before live audiences. Some even worry that technology will eliminate live performance altogether; performances will be recorded for home viewing, abolishing the relationship between performer and audience. But these negative views assume both that technology poses an unprecedented challenge to the arts and that we are not committed enough to the artistic enterprise to preserve the live performance, assumptions that seem unnecessarily cynical. In fact, technology



has traditionally assisted our capacity for creative expression and can refine our notions of any given art form.

For example, the portable camera and the snapshot were developed at the same time as the rise of impressionist painting in the nineteenth century. These photographic technologies encouraged a new appreciation. In addition, impressionist artists like Degas studied the elements of light and movement captured by instantaneous photography and used their new understanding of the way our perceptions distort reality to try to more accurately capture reality in their work. Since photos can capture the "moments" of a movement, such as a hand partially raised in a gesture of greeting, Impressionist artists were inspired to paint such moments in order to more effectively convey the quality of spontaneous human action. Photography freed artists from the preconception that a subject should be painted in a static, artificial entirety, and inspired them to capture the random and fragmentary qualities of our world. Finally, since photography preempted painting as the means of obtaining portraits, painters had more freedom to vary their subject matter, thus giving rise to the abstract creations characteristic of modern art.



## SLACKAHEAD

### READING HABIT MATERIAL - 38

During the 1940s and 1950s the United States government developed a new policy toward Native Americans, often known as "readjustment." Because the increased awareness of civil rights in these decades helped reinforce the belief that life on reservations prevented Native Americans from exercising the rights guaranteed to citizens under the United States Constitution, the readjustment movement advocated the end of the federal government's involvement in Native American affairs and encouraged the assimilation of Native Americans as individuals into mainstream society. However, the same years also saw the emergence of a Native American leadership and efforts to develop tribal instructions and reaffirm tribal identity. The clash of these two trends may be traced in the attempts on the part of the Bureau of Indian Affairs (BIA) to convince the Oneida tribe of Wisconsin to accept readjustment.

The culmination of BIA efforts to sway the Oneida occurred at a meeting that took place in the fall of 1956. The BIA suggested that it would be to the Oneida's benefit to own their own property and, like other homeowners, pay real estate taxes on it. The BIA also emphasized that, after readjustment, the government would not attempt to restrict Native Americans' ability to sell their individually owned lands. The Oneida were then offered a one-time lump-sum payment of \$60,000 in lieu of the \$0.52 annuity guaranteed in perpetuity to each member of the tribe under the Canandaigua Treaty.

The efforts of the BIA to "sell" readjustment to the tribe failed because the Oneida realized that they had heard similar offers before. The Oneida delegates reacted negatively to the BIA's first suggestion because taxation of Native American lands had been



one past vehicle for dispossessing the Oneida: after the distribution of some tribal lands to individual Native Americans in the late nineteenth century, Native American lands became subject to taxation, resulting in new and impossible financial burdens, foreclosures, and subsequent tax sales of property. The Oneida delegates were equally suspicious of the BIA's emphasis on the rights of individual landowners, since in the late nineteenth century many individual Native Americans had been convinced by unscrupulous speculators to sell their lands. Finally, the offer of a lump-sum payment was unanimously opposed by the Oneida delegates, who saw that changing the terms of a treaty might jeopardize the many pending land claims based upon the treaty.

As a result of the 1956 meeting, the Oneida rejected readjustment. Instead, they determined to improve tribal life by lobbying for federal monies for postsecondary education, for the improvement of drainage on tribal lands, and for the building of a convalescent home for tribal members. Thus, by learning the lessons of history, the Oneida were able to survive as a tribe in their homeland.



## SLACKAHEAD

### READING HABIT MATERIAL - 39

Direct observation of contemporary societies at the threshold of widespread literacy has not assisted our understanding of how such literacy altered ancient Greek society, in particular its political culture. The discovery of what Goody has called the “enabling effects” of literacy in contemporary societies tends to seduce the observer into confusing often rudimentary knowledge of how to read with popular access to important books and documents: this confusion is then projected onto ancient societies. “In ancient Greece,” Goody writes, “alphabetic reading and writing was important for the development of political democracy.”

An examination of the ancient Greek city Athens exemplifies how this sort of confusion is detrimental to understanding ancient politics. In Athens, the early development of a written law code was retrospectively mythologized as the critical factor in breaking the power monopoly of the old aristocracy: hence the Greek tradition of the “law-giver,” which has captured the imaginations of scholars like Goody. But the application and efficacy of all law codes depend on their interpretation by magistrates and courts, and unless the right of interpretation is “democratized,” the mere existence of written laws changes little.

In fact, never in antiquity did any but the elite consult documents and books. Even in Greek courts the juries heard only the relevant statutes read out during the proceedings, as they heard verbal testimony, and they then rendered their verdict on the spot, without the benefit of any discussion among themselves. True, in Athens the juries were representative of a broad spectrum of the population, and these juries, drawn from diverse social classes, both interpreted what they had heard and



determined matters of fact. However, they guided solely by the speeches prepared for the parties by professional pleaders and by the quotations of laws or decrees within the speeches, rather than by their own access to any kind of document or book.

Granted, people today also rely heavily on a truly knowledgeable minority for information and its interpretation, often transmitted orally. Yet this is still fundamentally different from an ancient society in which there was no "popular literature," i.e., no newspapers, magazines, or other media that dealt with sociopolitical issues. An ancient law code would have been analogous to the Latin Bible, a venerated document but a closed book. The resistance of the medieval Church to vernacular translations of the Bible, in the West at least, is therefore a pointer to the realities of ancient literacy. When fundamental documents are accessible for study only to an elite, the rest of the society is subject to the elite's interpretation of the rules of behavior, including right political behavior. Athens, insofar as it functioned as a democracy, did so not because of widespread literacy, but because the elite had chosen to accept democratic institutions.



## SLACKAHEAD

### READING HABIT MATERIAL - 40

The English who in the seventeenth and eighteenth centuries inhabited those colonies that would later become the United States shared a common political vocabulary with the English in England. Steeped as they were in the English political language, these colonials failed to observe that their experience in America had given the words a significance quite different from that accepted by the English with whom they debated; in fact, they claimed that they were more loyal to the English political tradition than were the English in England.

In many respects the political institutions of England were reproduced in these American colonies. By the middle of eighteenth century, all of these colonies except four were headed by Royal Governors appointed by the King and perceived as bearing a relation to the people of the colony similar to that of the King to the English people. Moreover, each of these colonies enjoyed a representative assembly, which was consciously modeled, in powers and practices, after the English Parliament. In both England and these colonies, only property holders could vote.

Nevertheless, though English and colonial institutions were structurally similar, attitudes toward those institutions differed. For example, English legal development from the early seventeenth century had been moving steadily toward the absolute power of Parliament. The most unmistakable sign of this tendency was the legal assertion that the King was subject to the law. Together with this resolute denial of the absolute right of kings went the assertion that Parliament was unlimited in its



power: it could change even the Constitution by its ordinary acts of legislation. By the eighteenth century the English had accepted the idea that the parliamentary representatives of the people were omnipotent.

The citizens of these colonies did not look upon the English Parliament with such fond eyes, nor did they concede that their own assemblies possessed such wide powers. There were good historical reasons for this. To the English the word "constitution" meant the whole body of law and legal custom formulated since the beginning of the kingdom, whereas to these colonials a constitution was a specific written document, enumerating specific powers. This distinction in meaning can be traced to the fact that the foundations of government in the various colonies were written charters granted by the Crown. These express authorizations to govern were tangible, definite things. Over the years these colonial had often repaired to the charters to justify themselves in the struggle against tyrannical governors or officials of the Crown. More than a century of government under written constitutions convinced these colonists of the necessity for and efficacy of protecting their liberties against governmental encroachment by explicitly defining all governmental powers in a document.



## SLACKAHEAD

### READING HABIT MATERIAL - 41

Oil companies need offshore platforms primarily because the oil or natural gas the companies extract from the ocean floor has to be processed before pumps can be used to move the substances ashore. But because processing crude (unprocessed oil or gas) on a platform rather than at facilities onshore exposes workers to the risks of explosion and to an unpredictable environment, researchers are attempting to diminish the need for human labor on platforms and even to eliminate platforms altogether by redesigning two kinds of pumps to handle crude. These pumps could then be used to boost the natural pressure driving the flow of crude, which, by itself, is sufficient only to bring the crude to the platform, located just above the wellhead. Currently, pumps that could boost this natural pressure sufficiently to drive the crude through a pipeline to the shore do not work consistently because of the crude's content. Crude may consist of oil or natural gas in multiphase states—combinations of liquids, gases, and solids under pressure—that do not reach the wellhead in constant proportions. The flow of crude oil, for example, can change quickly from 60 percent liquid to 70 percent gas. This surge in gas content causes loss of "head", or pressure inside a pump, with the result that a pump can no longer impart enough energy to transport the crude mixture through the pipeline and to the shore.

Of two pumps being redesigned, the positive-displacement pump is promising because it is immune to sudden shifts in the proportion of liquid to gas in the crude mixture. But the pump's design, which consists of a single or twin screw pushing the fluid from one end of the pump to the other, brings crude into close contact with most parts of the pump, and thus requires that it be



made of expensive, corrosion-resistant material. The alternative is the centrifugal pump, which has a rotating impeller that sucks fluid in at one end and forces fluid out at the other. Although this pump has a proven design and has worked for years with little maintenance in waste-disposal plants, researchers have discovered that because the swirl of its impeller separates gas out from the oil that normally accompanies it, significant reductions in head can occur as it operates.

Research in the development of these pumps is focused mainly on trying to reduce the cost of the positive-displacement pump and attempting to make the centrifugal pump more tolerant of gas. Other researchers are looking at ways of adapting either kind of pump for use underwater, so that crude could be moved directly from the sea bottom to processing facilities onshore, eliminating platforms.



## SLACKAHEAD

### READING HABIT MATERIAL - 42

To critics accustomed to the style of fifteenth-century narrative paintings by Italian artists from Tuscany, the Venetian examples of narrative paintings with religious subjects that Patricia Fortini Brown analyzes in a recent book will come as a great surprise.

While the Tuscan paintings present large-scale figures, clear narratives, and simple settings, the Venetians filled their pictures with dozens of small figures and elaborate building, in addition to a wealth of carefully observed anecdotal detail often irrelevant to the paintings' principal subjects—the religious stories they narrate. Although it occasionally obscured these stories, this accumulation of circumstantial detail from Venetian life—the inclusion of prominent Venetian citizens, for example—was considered appropriate to the narration of historical subjects and underlined the authenticity of the historical events depicted.

Indeed, Brown argues that the distinctive style of the Venetian paintings—what she calls the “eyewitness style”—was influenced by Venetian affinity for a strongly parochial type of historical writing, consisting almost exclusively of vernacular chronicles of local events embroidered with all kinds of inconsequential detail.

And yet, while Venetian attitudes toward history that are reflected in their art account in part for the difference in style between Venetian and Tuscan narrative paintings, Brown has overlooked some practical influences, such as climate. Tuscan churches are filled with frescoes that, in contrast to Venetian narrative paintings, consist mainly of large figures and easily recognized religious stories, as one would expect of paintings that are normally viewed from a distance and are designed primarily to remind the faithful of their religious tenets. In Venice, where the damp climate is unsuited to fresco, narrative frescoes in churches



were almost nonexistent, with the result that Venetian artists and their public had no practical experience of the large-scale representation of familiar religious stories. Their model for painted stories was the cycle of secular historical paintings in the Venetian magistrate's palace, which were indeed the counterpart of written history and were made all the more authoritative by a proliferation of circumstantial detail.

Moreover, because painting frescoes requires an unusually sure hand, particularly in the representation of human form, the development of drawing skill was central to artistic training in Tuscany, and by 1500 the public there tended to distinguish artists on the basis of how well they could draw human figures. In Venice, a city virtually without frescoes, this kind of skill was acquired and appreciated much later. Gentile Bellini, for example, although regarded as one of the supreme painters of the day, was feeble at drawing. On the other hand, the emphasis on architecture so evident in the Venetian narrative paintings was something that local painters obviously prized, largely because painting architecture in perspective was seen as a particular test of the Venetian painter's skill.



## SLACKAHEAD

### READING HABIT MATERIAL - 43

Currently, legal scholars agree that in some cases legal rules do not specify a definite outcome. These scholars believe that such indeterminacy results from the vagueness of language: the boundaries of the application of a term are often unclear.

Nevertheless, they maintain that the system of legal rules by and large rests on clear core meanings that do determine definite outcomes for most cases. Contrary to this view, an earlier group of legal philosophers, called "realists," argued that indeterminacy pervades every part of the law.

The realists held that there is always a cluster of rules relevant to the decision in any litigated case. For example, deciding whether an aunt's promise to pay her niece a sum of money if she refrained from smoking is enforceable would involve a number of rules regarding such issues as offer, acceptance, and revocation. Linguistic vagueness in any one of these rules would affect the outcome of the case, making possible multiple points of indeterminacy, not just one or two, in any legal case.

For the realists, an even more damaging kind of indeterminacy stems from the fact that in a common-law system based on precedent, a judge's decision is held to be binding on judges in subsequent similar cases. Judicial decisions are expressed in written opinions, commonly held to consist of two parts: the holding (the decision for or against the plaintiff and the essential grounds or legal reasons for it, that is, what subsequent judges are bound by), and the dicta (everything in an opinion not essential to the decision, for example, comments about points of law not treated as the basis of the outcome). The realists argued that in practice the common-law system treats the "holding/dicta" distinction loosely. They pointed out that even when the judge



writing an opinion characterizes part of it as "the holding," judges writing subsequent opinions, although unlikely to dispute the decision itself, are not bound by the original judge's perception of what was essential to the decision. Later judges have tremendous leeway in being able to redefine the holding and the dicta in a precedential case. This leeway enables judges to choose which rules of law formed the basis of the decision in the earlier case. When judging almost any case, then, a judge can find a relevant precedential case which, in subsequent opinions, has been read by one judge as stating one legal rule, and by another judge as stating another, possibly contradictory one. A judge thus faces an indeterminate legal situation in which he or she has to choose which rules are to govern the case at hand.



## SLACKAHEAD

### READING HABIT MATERIAL - 44

Years after the movement to obtain civil rights for black people in the United States made its most important gains, scholars are reaching for a theoretical perspective capable of clarifying its momentous developments. New theories of social movements are being discussed, not just among social psychologists, but also among political theorists.

Of the many competing formulations of the "classical" social psychological theory of social movement, three are prominent in the literature on the civil rights movement: "rising expectations," "relative deprivation," and "J-curve." Each conforms to a causal sequence characteristic of classical social movement theory, linking some unusual condition, or "system strain," to the generation of unrest. When these versions of the classical theory are applied to the civil rights movement, the source of strain is identified as a change in black socioeconomic status that occurred shortly before the widespread protest activity of the movement.

For example, the theory of rising expectations asserts that protest activity was a response to psychological tensions generated by gains experienced immediately prior to the civil rights movement. Advancement did not satisfy ambition, but created the desire for further advancement. Only slightly different is the theory of relative deprivation. Here the impetus to protest is identified as gains achieved during the premovement period, coupled with simultaneous failure to make any appreciable headway relative to the dominant group. The J-curve theory argues that the movement occurred because a prolonged period of rising expectations and gratification was followed by a sharp reversal.



Political theorists have been dismissive of these applications of classical theory to the civil rights movement. Their arguments rest on the conviction that, implicitly, the classical theory trivializes the political ends of movement participants, focusing rather on presumed psychological dysfunctions: reduction of complex social situations to simple paradigms of stimulus and response obviates the relevance of all but the shortest-term analysis. Furthermore, the theories lack predictive value: "strain" is always present to some degree, but social movement is not. How can we know which strain will provoke upheaval?

These very legitimate complaints having frequently been made, it remains to find a means of testing the strength of the theories. Problematically, while proponents of the various theories have contradictory interpretations of socioeconomic conditions leading to the civil rights movement, examination of various statistical records regarding the material status of black Americans yields ample evidence to support any of the three theories. The steady rise in median black family income supports the rising expectations hypothesis; the stability of the economic position of black vis-à-vis white Americans lends credence to the relative deprivation interpretation; unemployment data are consistent with the J-curve theory. A better test is the comparison of each of these economic indicators with the frequency of movement-initiated events reported in the press; unsurprisingly, none correlates significantly with the pace of reports about movement activity.



## SLACKAHEAD

### READING HABIT MATERIAL - 45

Nearly every writer on the philosophy of civil rights activist Martin Luther King, Jr., makes a connection between King and Henry David Thoreau, usually via Thoreau's famous essay, "Civil Disobedience" (1849). In his book *Stride Toward Freedom* (1958), King himself stated that Thoreau's essay was his first intellectual contact with the theory of passive resistance to governmental laws that are perceived as morally unjust. However, this emphasis on Thoreau's influence on King is unfortunate: first, King would not have agreed with many other aspects of Thoreau's philosophy, including Thoreau's ultimate acceptance of violence as a form of protest; second, an overemphasis on the influence of one essay has kept historians from noting other correspondences between King's philosophy and transcendentalism. "Civil Disobedience" was the only example of transcendentalist writing with which King was familiar, and in many other transcendentalist writings, including works by Ralph Waldo Emerson and Margaret Fuller, King would have found ideas more nearly akin to his own.

The kind of civil disobedience King had in mind was, in fact, quite different from Thoreau's view of civil disobedience. Thoreau, like most other transcendentalists, was primarily interested in reform of the individual, whereas King was primarily interested in reform of society. As a protest against the Mexican War, Thoreau refused to pay taxes, but he did not hope by his action to force a change in national policy. While he encouraged others to adopt similar protests, he did not attempt to mount any mass protest action against unjust laws. In contrast to Thoreau, King began to advocate the use of mass civil disobedience to effect revolutionary changes within the social system.



However, King's writings suggest that, without realizing it, he was an incipient transcendentalist. Most transcendentalists subscribed to the concept of "higher law" and included civil disobedience to unjust laws as part of their strategy. They often invoked the concept of higher law to justify their opposition to slavery and to advocate disobedience to the strengthened Fugitive Slave Law of 1850. In his second major book, King's discussion of just and unjust laws and the responsibility of the individual is very similar to the transcendentalists' discussion of higher law. In reference to how one can advocate breaking some laws and obeying others, King notes that there are two types of laws, just and unjust; he describes a just law as a "code that squares with the moral law" and an unjust law as a "code that is out of harmony with the moral law." Thus, King's opposition to the injustice of legalized segregation in the twentieth century is philosophically akin to the transcendentalists' opposition to the Fugitive Slave Law in the nineteenth century.



## SLACKAHEAD

### READING HABIT MATERIAL - 46

In *Democracies and its Critics*, Robert Dahl defends both democratic value and pluralist democracies, or polyarchies (a rough shorthand term for Western political systems). Dahl argues convincingly that the idea of democracy rests on political equality—the equality capacity of all citizens to determine or influence collective decisions. Of course, as Dahl recognizes, if hierarchical ordering is inevitable in any structure of government, and if no society can guarantee perfect equality in the resources that may give rise to political influence, the democratic principle of political equality is incapable of full realization. So actual systems can be deemed democratic only as approximations to the ideal. It is on these grounds that Dahl defends polyarchy.

As a representative system in which elected officials both determine government policy and are accountable to a broad-based electorate, polyarchy reinforces a diffusion of power away from any single center and toward a variety of individuals, groups, and organizations. It is this centrifugal characteristic, Dahl argues, that makes polyarchy the nearest possible approximation to the democratic ideal. Polyarchy achieves this diffusion of power through party competition and the operation of pressure groups. Competing for votes, parties seek to offer different sections of the electorate what they most want; they do not ask what the majority thinks of an issue, but what policy commitments will sway the electoral decisions of particular groups. Equally, groups that have strong feelings about an issue can organize in pressure groups to influence public policy.

During the 1960s and 1970s, criticism of the theory of pluralist democracy was vigorous. Many critics pointed to a gap between the model and the reality of Western political systems. They



argued that the distribution of power resources other than the vote was so uneven that the political order systematically gave added weight to those who were already richer or organizationally more powerful. So the power of some groups to exclude issues altogether from the political agenda effectively countered any diffusion of influence on decision-making.

Although such criticism became subdued during the 1980s, Dahl himself seems to support some of the earlier criticism. Although he regrets that some Western intellectuals demand more democracy from polyarchies than is possible, and is cautious about the possibility of further democratization, he nevertheless ends his book by asking what changes in structures and consciousness might make political life more democratic in present polyarchies. One answer, he suggests, is to look at the economic order of polyarchies from the point of view of the citizen as well as from that of producers and consumers. This would require a critical examination of both the distribution of those economic resources that are at the same time political resources, and the relationship between political structures and economic enterprises.



## SLACKAHEAD

### READING HABIT MATERIAL - 47

The old belief that climatic stability accounts for the high level of species diversity in the Amazon River basin of South America emerged, strangely enough, from observations of the deep sea. Sanders discovered high diversity among the mud-dwelling animals of the deep ocean. He argued that such diversity could be attributed to the absence of significant fluctuations in climate and physical conditions, without which the extinction of species should be rare. In the course of time new species would continue to evolve, and so the rate of speciation would be greater than the rate of extinction, resulting in the accumulation of great diversity. Sanders argued that the Amazon tropical rain forest is analogous to the deep sea: because the rain forest has a stable climate, extinction should be rare. Evidence that some species of rain-forest trees have persisted for some 30 million years in the Amazon basin, added to the absence of winter and glaciation, supports this view.

Recently however, several observations have cast doubt on the validity of the stability hypothesis and suggest that the climate of the Amazon basin has fluctuated significantly in the past. Haffer noted that different species of birds inhabit different corners of the basin in spite of the fact that essentially unbroken green forest spreads from the western edge to the eastern edge of the region. This pattern presented a puzzle to biologists studying the distributions of plants and animals: why would different species inhabit different parts of the forest if the habitat in which they lived had a stable climate?

Haffer proposed a compelling explanation for the distribution of species. Observing that species found on high ground are different from those on low ground and knowing that in the



Amazon lowlands are drier than uplands, he proposed that during the ice ages the Amazon lowlands became a near-desert arid plain; meanwhile, the more elevated regions became islands of moisture and hence served as refuges for the fauna and flora of the rain forest. Populations that were once continuous diverged and became permanently separated. Haffer's hypothesis appears to explain the distribution of species as well as the unusual species diversity. The ice-age refuges would have protected existing species from extinction. But the periodic geographic isolation of related populations (there have been an estimated 13 ice ages to date) would have facilitated the development of new species as existing species on the lowlands adapted to changing climates.

Although no conclusive proof has yet been found to support Haffer's hypothesis, it has led other researchers to gauge the effects of climatic changes, such as storms and flooding, on species diversity in the Amazon basin. Their research suggests that climatic disturbances help account for the splendid diversity of the Amazon rain forest.



## SLACKAHEAD

### READING HABIT MATERIAL - 48

Although surveys of medieval legislation, guild organization, and terminology used to designate different medical practitioners have demonstrated that numerous medical specialties were recognized in Europe during the Middle Ages, most historians continue to equate the term "woman medical practitioner," wherever they encounter it in medieval records, with "midwife." This common practice obscures the fact that, although women were not represented on all levels of medicine equally, they were represented in a variety of specialties throughout the broad medical community. A reliable study by Wickersheimer and Jacquart documents that of 7,647 medical practitioners in France during the twelfth through fifteenth centuries, 121 were women; of these, only 44 were identified as midwives, while the rest practiced as physicians, surgeons, apothecaries, barbers, and other healers.

While preserving terminological distinctions somewhat increases the quality of the information extracted from medieval documents concerning women medical practitioners, scholars must also reopen the whole question of why documentary evidence for women medical practitioners comprises such a tiny fraction of the evidence historians of medieval medicine usually present. Is this due to the limitations of the historical record, as has been claimed, or does it also result from the methods historians use? Granted, apart from medical licenses, the principal sources of information regarding medical practitioners available to researchers are wills, property transfers, court records, and similar documents, all of which typically underrepresent women because of restrictive medieval legal traditions. Nonetheless, the parameters researchers choose when they define their



investigations may contribute to the problem. Studies focusing on the upper echelons of "learned" medicine, for example, tend to exclude healers on the legal and social fringes of medical practice, where most women would have been found.

The advantages of broadening the scope of such studies is immediately apparent in Pelling and Webster's study of sixteenth-century London. Instead of focusing solely on officially recognized and licensed practitioners, the researchers defined a medical practitioner as "any individual whose occupation is basically concerned with the care of the sick." Using this definition, they found primary source information suggesting that there were 60 women medical practitioners in the city of London in 1560. Although this figure may be slightly exaggerated, the evidence contrasts strikingly with that of Gottfried, whose earlier survey identified only 28 women medical practitioners in all of England between 1330 and 1530.

Finally, such studies provide only statistical information about the variety and prevalence of women's medical practice in medieval Europe. Future studies might also make profitable use of analyses developed in other areas of women's history as a basis for exploring the social context of women's medical practice. Information about economic rivalry in medicine, women's literacy, and the control of medical knowledge could add much to our growing understanding of women medical practitioners' role in medieval society.



## SLACKAHEAD

### READING HABIT MATERIAL - 49

Modern architecture has been criticized for emphasizing practical and technical issues at the expense of aesthetic concerns. The high-rise buildings constructed throughout the industrialized world in the 1960s and 1970s provide ample evidence that cost-efficiency and utility have become the overriding concerns of the modern architect. However, Otto Wagner's seminal text on modern architecture, first published in Germany in 1896, indicates that the failure of modern architecture cannot be blamed on the ideals of its founders.

Wagner's *Modern Architecture* called for a new style based on modern technologies and models of construction. He insisted that there could be no return to traditional, preindustrial models; only by accepting wholeheartedly the political and technological revolutions of the nineteenth century could the architect establish the forms appropriate to a modern, urban society. "All modern creation," Wagner wrote, "must correspond to the new materials and demands of the present...must illustrate our own better, democratic, self-confident, ideal nature," and must incorporate the new "colossal technical and scientific achievements" of the age. This would indeed seem to be the basis of a purely materialist definition of architecture, a prototype for the simplistic form-follows-function dogma that opponents have identified as the intellectual basis of modern architecture.

But the picture was more complex, for Wagner was always careful to distinguish between art and engineering. Ultimately, he envisaged the architect developing the skills of the engineer without losing the powers of aesthetic judgment that Wagner felt were unique to the artist. "Since the engineer is seldom a born artist and the architect must learn as a rule to be an engineer,



architects will in time succeed in extending their influence into the realm occupied by the engineers, so that legitimate aesthetic demands can be met in a satisfactory way." In this symbiotic relationship essential to Modernism, art was to exercise the controlling influence.

No other prospect was imaginable for Wagner, who was firmly rooted as a designer and, indeed, as a teacher in the Classical tradition. The apparent inconsistency of a confessed Classicist advising against the mechanical imitation of historical models and arguing for new forms appropriate to the modern age created exactly the tension that made Wagner's writings and buildings so interesting. While he justified, for example, the choice of a circular ground plan for churches in terms of optimal sight-lines and the technology of the gasometer, the true inspiration was derived from the centralized churches of the Italian Renaissance. He acknowledged as rationalist that there was no way back to the social and technological conditions that had produced the work of Michelangelo or Fischer von Erlach, but he recognized his emotional attachment to the great works of the Italian Renaissance and Austrian Baroque.



## SLACKAHEAD

### READING HABIT MATERIAL - 50

In order to explain the socioeconomic achievement, in the face of disadvantages due to racial discrimination, of Chinese and Japanese immigration to the United States and their descendants, sociologists have typically applied either culturally based or structurally based theories—but never both together. To use an economic metaphor, culturally based explanations assert the importance of the supply side of the labor market, emphasizing the qualities immigrant groups bring with them for competition in the United States labor market. Such explanations reflect a human-capital perspective in which status attainment is seen as a result of individuals' ability to generate resources. Structurally based explanations, on the other hand, examine the market condition of the immigrants' host society, particularly its discriminatory practices and their impact on the status attainment process of immigrant groups. In the economic metaphor, structural explanations assert the importance of the demand side of the labor market.

In order to understand the socioeconomic mobility of Chinese and Japanese immigrants and their descendants, only an analysis of supply-side and demand-side factors together, in the context of historical events, will suffice. On the cultural or supply side, differences in immigration pattern and family formation resulted in different rates of socioeconomic achievement for Chinese and Japanese immigrants. For various reasons, Chinese immigrants remained sojourners and did not (except for urban merchants) establish families. They were also hampered by ethnic conflict in the labor market. Japanese immigrants, on the other hand, were less constrained, made the transition from sojourner to settler within the first two decades of immigration, and left low-wage



labor to establish small businesses based on a household mode of production. Chinese sojourners without families were more vulnerable to demoralization, whereas Japanese immigrants faced societal hostility with the emotional resources provided by a stable family life. Once Chinese immigrants began to establish nuclear families and produce a second generation, instituting household production similar to that established by Japanese immigrants, their socioeconomic attainment soon paralleled that of Japanese immigrants and their descendants.

On the structural or demand side, changes in institutional constraints, immigration laws, labor markets, and societal hostility were rooted in the dynamics of capitalist economic development. Early capitalist development generated a demand for low-wage labor that could not be fulfilled. Early Chinese and Japanese emigration was a response to this demand. In an advanced capitalist economy, the demand for immigrant labor is more differentiated: skilled professional and technical labor fills empty positions in the primary labor market and, with the traditional unskilled low-wage labor, creates two immigrant streams. The high levels of education attained by the descendants of Chinese and Japanese immigrants and their concentration in strategic states such as California paved the way for the movement of the second generation into the expanding primary labor market in the advanced capitalist economy that existed after the Second World War.