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Cover:
Spinoff, a computer graphic image created at Lightspeed Computers by Joan Hausrath, Professor of Art.
What Makes Good Writing?

Johnny, the ageless student who never seems to be able to learn as much as adults expect him to, is a familiar figure on the educational scene. In the 1950s, we discovered that Johnny couldn't read. In the 1960s, Johnny wasn't learning science and math fast enough, which is why the Russians got to the moon first. In the 1970s, Johnny didn't want to study foreign languages and he still couldn't read. Now we discover that Johnny can't even write. As Time magazine recently informed its readers, "Too many students dangle participles, split infinitives and sprinkle commas around haphazardly. They also confuse their with there and its with it's." Nor can these students "express a point of view and defend it vigorously." Even more alarmingly, these deficiencies follow Johnny into adulthood: editorials and special columns are ultimately empty exercises. "Research papers" are ultimately empty exercises.

Modern theorists increasingly regard the composing of essays not merely as a means of recording what the writer already knows but as a mode of learning in itself. In this view, student writers should be actively engaged in exploring a subject. In the course of this exploration, they develop and modify their opinions; they see the need to explain the connections and relationships among ideas -- in other words, they experience intellectual growth.

While the concept of essay writing as a mode of learning may not be applicable to every field of study, it can be of great value in psychology, political science, history, biology, and obviously in the analysis of literature -- any subject in which the learner's written response to what he or she has learned can lead to deeper understanding and even to speculative thinking.

Such an approach requires restraint on the part of the teacher as well as active engagement on the part of the student. If the teacher has too rigid an expectation of what the completed essay ought to be like, the students will channel their energies into imitating the model rather than trying to discover what form emerges from working out their own meaning.

The teacher who is convinced that writing can be a mode of learning will emphasize the ongoing process of composing, fully aware that this process can be messy and exasperating, with many false starts and blind alleys. Grammatical and mechanical correctness will necessarily be less important than quality of thought.

This is not to say that students should stop worrying about spelling and commas, or that they should loftily ignore the difference between there and their. But it is important to distinguish between surface correctness and those activities which are at the heart of the composing process: testing and formulating ideas, pursuing a line of reasoning, exploring connections, imagining alternatives. Proofreading, which follows the final revision, is a necessary step but takes place on an intellectual plane quite different from that of composing itself.

If we regard writing not only as a technique for presenting what is already known, but as a process of figuring out exactly what we want to say, we will be in a better position to judge whether Johnny can or cannot write.

Barbara Apstein
"For knowledge too, is itself a power," wrote Sir Francis Bacon in the 17th century, and today's economists would certainly agree. We all recognize that America is in the grip of an Educational-Technological-Informational revolution that has provoked serious economic upheaval in some parts of the country but has brought to Massachusetts unprecedented growth and prosperity. Whole new industries have been spawned as a result of this revolution, including the burgeoning information industry. More than ever before, knowledge has become merchandise and Massachusetts - with one of the nation's largest concentrations of higher education institutions - is fortunately well-stocked in that commodity.

We live in the midst of a society that is experiencing profound change:
- In the 1950's, fully 65% of the American workforce was engaged in manufacturing occupations. Today that figure is just 12%. In 1950, only about 17% of us worked in what could be called "information-related jobs." Today, more than 70% of us do.
- During the 1970's, according to an MIT study, more than 19 million new jobs were created, the most in our history. Only 5% were in manufacturing.
- Today nearly 27 million Americans age twenty-five and older are college-educated, up almost 4% since 1980. Between 1960 and 1980 the number of persons in the U.S. labor force with four or more years of college increased by 200%.

Clearly, a transition of enormous impact has already begun. As a society, we are shifting from an industrial base (when control of raw materials and physical human toil were the basis of power) to an information age. Here the control and distribution of knowledge are central to economic fulfillment, with all the benefits such fulfillment bestows upon citizens and institutions. "In the current decade," reports a study commissioned by the U.S. Congress, "more than half of our gross national product is based on the development, storage, transfer, and use of information."

From first-hand experience, we in Massachusetts understand the implications of this revolution. During the past ten years we have lived at its edge. As Governor Michael Dukakis pointed out last January in his annual "State of the State Address," ten years ago the Commonwealth was beset by a plethora of economic woes, including one of the highest unemployment rates in the nation. The mills and factories were then Massachusetts' prime industries. As the demand for their goods and services declined, so did the state's financial prospects. But there was one significant resource the Commonwealth possessed that many other states did not: an extensive network of quality higher education institutions. Around these colleges and universities began to gather a flourishing community of electronics, high-technology, and information based companies which were being attracted by the availability of people with skills, training, and experience -- in short, an educated workforce, a vital building block to their growing enterprises. It was an ideal match, and soon Massachusetts was making progress once again.

Today our unemployment rate is the lowest of any industrial state in the nation. More jobs were created here in 1984 than in any year since the end of World War II. In the past two years alone, 40,000 new businesses have opened in Massachusetts.
who were professionally trained for the Commonwealth. Beginning in 1960, the state colleges, in response to perceived needs, began the transition to multi-purpose, liberal arts institutions which today emphasize a twin commitment to the arts and sciences and career preparation in more than one hundred different fields.

Approximately 33,000 full-time students, and nearly 2,000 full-time faculty, are now at work in our state colleges. There are more than 100,000 living alumni of these colleges, and 75% live and work in Massachusetts, contributing their talent and energy to their careers and their communities.

Each of us associated with the state colleges -- as alumni, faculty, students, staff, or friends -- should take great pride in the manner in which these nine colleges have expanded their curricula while preserving the traditions of academic excellence. If we agree with the "idea of the college" advocated by Cardinal John Henry Newman (detailed and expanded upon by Professor Edward James in an earlier issue of this magazine) that education is ultimately more useful and relevant than any specific product, then we should applaud the state colleges for their ongoing commitment to Liberal Arts studies as a foundation for all baccalaureate programs. Preparing men and women to understand and deal effectively with ethical, moral, and social issues is at least as important as any occupational preparation that higher education may provide. But more to the point, as Joel P. Smith, former president of Stanford University says, "a liberal education is practical for the long term; it works and it lasts."

Those of us in the fields of government or education with ties to the state colleges particularly are constrained to understand, both philosophically and pragmatically, the special and unique functions of this segment of public higher education, and to promote at every opportunity the important mission of these institutions. With next year's in-state tuition set at $936.00, and with these colleges delivering a well-rounded quality education thanks to a corps of dedicated teacher-scholars, there is much to cheer about.

"If you do not think about the future," said author John Galsworthy, "you cannot have one." The state colleges are a key part of the Commonwealth's investment in its future. They have stood the tests of time, transition, and public service, and they have done so remarkably well.

Norfolk To Boston

She is too warm in her clothes with menses, excitement, and the Norfolk sunshine.

Two gray heron ply between the runway and the creek that curls away like pared rind.

She eyes the blue lights beading the runway and catches at the sapphire on her throat, turning with thumb and finger the shape of a memory to points of new fire.

"The temperature in Boston is thirty-two degrees."

The captain's voice is sanguine, pleasantly southern.

She secures her seatbelt and lets go of the leaving -- leaves the city blocked out below, its spaces apportioned, finished as a dead thing.

The bay is quiet as an iced northern pond, colored mauve in the aurora of morning.

The blue jet flare of an engine flickers like St. Elmo's fire, reflected off the water's skin.

Contours of coast roll out like moist pie crust -- thin, thinner, wafering off into the sea.

This climbing is never routine for her -- the adieu to what is down there for an hour or forever.

The god that cabins the body in steel uncages something. She is free on an island in this waste, aware of energy and the peace of displacement.

Faye George Hennebury
An iridescent halo of photochemical smog hangs over the city. Paint peels, flowers wilt and people struggle to breathe. Cause and effect are readily apparent.

A wilderness lake once teeming with aquatic life is crystal clear. The majestic trees of a remote forest are turning brown. A more insidious environmental agent is implicated, acid rain.

These two phenomena, although different on the surface, are closely related in origin. Both are the products of an industrial, urbanized society with its dependence upon the combustion of fossil fuels for the energy it consumes in ever increasing amounts.

England, the birthplace of the industrial revolution in the late eighteenth century, was the first country to experience both smog and acid rain on a grand scale. It had long been suspected that the pollution from the coal fires of London was causing more than a foul smell. Respiratory problems and the damage to vegetation, fabrics and to iron and stone structures had been linked to the burning of coal. By the mid-nineteenth century, scientists had detected both sulfuric and nitric acids in the air and the term ‘acid rain’ had been coined. A simple solution to the problem was devised. Factories were equipped with taller smokestacks, the ambient air became cleaner and the problem was apparently solved. However, it became absolutely clear that the problem had not been solved when, in 1952, thousands of people in the British Isles died as a result of the ‘killer fog’. Even taller stacks were built in response to this crisis.

In 1972, Sweden presented a report to the United Nations Conference on the Human Environment notifying the world community that not only had the acid rain problem not been solved by building taller and taller stacks, some as tall as the Empire State Building, but that these very stacks built to prevent acid rain formation had caused it to expand from a local, urban problem to one of global dimensions.

Acids in the Environment

Acid rain is a general term which refers to both wet and dry deposition of acidic substances from the air onto the earth’s surface. Thus, it includes all forms of precipitation as well as the settling out and washing out by precipitation of fine solids (particulates) and liquid droplets (aerosols).

There are a large number of naturally occurring acidic substances. Acetic acid, a weak acid commonly known as vinegar, is responsible for the characteristic sour taste of pickles. Carbonic acid, another weak acid, produces the pleasant, sparkling taste of a carbonated beverage. In contrast, stomach acid (hydrochloric acid), a strong acid of about the same concentration as vinegar, produces the decidedly unpleasant, sour and burning sensation associated with heartburn.

Since the two acids primarily responsible for acid rain, sulfuric and nitric, are strong acids, it is not surprising that this most sour drink is having a serious and detrimental effect on the earth.
Natural unpolluted rain, unlike distilled water, is not neutral but is slightly acidic. This acidity is produced when the slightly soluble atmospheric gas, carbon dioxide, dissolves. Acid rain is frequently 20 to 100 times more acidic than unpolluted rain not only because pollutants dissolve to form strong rather than weak acids but also because these pollutants are considerably more soluble in water than is carbon dioxide.

The acidity of water is conveniently quantified using the pH scale (Figure 1). On this scale the pH of distilled water is 7, that of unpolluted water is 5.6 and that of the rain falling in Massachusetts averages 4.2. Two characteristics of the pH scale are important to note. First, pH decreases as acidity increases. Second, the scale is based on powers of 10, that is, each decrease of 1 pH unit represents a ten-fold increase in acidity. Thus, rain in Massachusetts is 25 times more acidic than unpolluted rain.

Most plants and animals experience optimum growth and reproduction at a pH somewhere between 6.0 and 9.0. Detrimental effects are observed in many species if the pH of the water in their environment falls below 6. This optimum pH range (6-9) is above the pH of unpolluted water (5.6), than normal which is converting this once robust earth into an increasingly fragile one.

Sources of Acid Rain

In New England and most other regions east of the Mississippi, sulfuric acid is the major constituent (62%) of acid rain. The concentration of nitric acid is about half this amount (32%) and hydrochloric acid is usually present in minor amounts (6%). In contrast, the nitric acid concentration in Los Angeles is about twice that of sulfuric acid although in most regions west of the Mississippi the sulfuric acid concentration is equal to (1:1), or somewhat larger than (1.4:1), the nitric acid concentration.

Both sulfuric and nitric acids occur naturally in the atmosphere. Sulfur containing compounds which react to form sulfuric acid are emitted from erupting volcanoes, the bacterial decomposition of organic matter and sea spray. Compounds of nitrogen, the precursors of nitric acid, result primarily from chemical reactions occurring during lightning storms and in the soil.

These natural sources produce a measurable (background) concentration of these acids. Since these sources are globally distributed, however, their contribution to the annual average acidity varies little from region to region.

Man-made sources, on the other hand, tend to be concentrated in urban areas within the Northern Hemisphere. Sulfuric acid forms primarily from sulfur oxides (SOx), mostly sulfur dioxide (SO2), emitted during electrical generation (62%), industrial processing (18%) and industrial fuel combustion (13%). Nitric acid precursors are nitrogen oxides (NOx), primarily nitric oxide (NO) and nitrogen dioxide (NO2), emitted from fossil fuel combustion in transportation (39%), electrical generation (34%) and industrial manufacturing (19%).

Measured on a global scale, man-made sources are estimated to account for 41% of the total atmospheric sulfur and from 6% to 50% of the total atmospheric NOx. Since these sources are not uniformly distributed, they may contribute as much as 80 or 90% of the total acidic pollutants in some regions such as Sweden and the Northeastern United States, thereby causing the precipitation to be highly acidic in these regions.

Fluctuations in the relative amounts of sulfuric and nitric acids can be correlated with human patterns of fuel consumption.

The amount of sulfuric acid in the atmosphere is maximum in the winter when electrical generation peaks, while the amount of nitric acid reaches a maximum in the summer when traffic levels peak. The abnormally high concentration of nitric acid in Los Angeles obviously results from the freeway traffic.

The emission of SOx can be reduced by burning fuels with lower sulfur content, for example, by replacing high-sulfur eastern coal with low-sulfur western coal, oil or gas. SOx emissions increased 46% from 1940 to a peak value in 1970 after which a slight decrease has been noted. This decrease can be directly correlated with the switching by electrical utilities from coal to oil and gas and with the installation of flue gas desulfurization (FGD) scrubbers on the smokestacks of coal fired burners in response to emission standards set in the Clean Air Act of 1970.

Most of the FGD technology used in the United States is based on the reaction of SOx with limestone and/or lime. This emission control device is capable of reducing SO2 emissions from coal fired burners by 75-90% but the solid by-product (calcium sulfite) is not marketable and presents a serious waste disposal problem.

If high-sulfur coal is to be burned, it may be cleaned prior to burning. Since sulfur is present in coal primarily as iron pyrite (fool's gold) which like gold is very dense, it can be partially removed by an operation similar to that used in panning for gold.
pyrite settles out when a mixture of crushed coal and water is mechanically shaken.

Since the oxides of sulfur cannot be prevented from forming during combustion, sulfur must be removed either prior to combustion or after conversion to the oxides as in scrubbing. Nitrogen oxides, on the other hand, can be prevented from forming by adjusting the conditions under which the fuel burns. Furthermore, the oxidation process can be reversed and NO\textsubscript{x} can be converted into the harmless major constituent of air, nitrogen, N\textsubscript{2}.

Some of the modifications to the combustion process which result in reduced NO\textsubscript{x} emissions by preventing its formation include reducing the amount of air available during combustion, installing special low-NO\textsubscript{x} burners, and lowering the combustion temperature. The injection of ammonia into the combustion chamber or the installation of selective catalysts in the stack remove NO\textsubscript{x} by converting it to nitrogen. Perfection of these technologies can virtually eliminate NO\textsubscript{x} emissions from stationary combustion sources.

Nitrogen oxide emissions increased steadily (273\%) from 1940 to a peak in 1973. Fuel conservation associated with the energy crisis may account for the temporary reduction in these emissions, which are again rising. Since fuel combustion for transportation accounts for a large fraction of man-made NO\textsubscript{x}, control of automobile emissions should significantly reduce nitric acid formation.

Most cars are now equipped with a single-stage catalytic converter which reduces carbon monoxide and hydrocarbon emissions but, unfortunately, increases NO\textsubscript{x} formation. A more effective but also more expensive and complex two-stage catalytic converter in which a second chamber containing a ruthenium oxide catalyst converts NO\textsubscript{x} to N\textsubscript{2}, is currently being installed on some new cars. Others are equipped with a less efficient single-stage converter system in which exhaust gases are recycled, allowing the engine to be operated at lower air concentrations and at lower temperatures thereby reducing NO\textsubscript{x} emissions.

Trends in SO\textsubscript{x} and NO\textsubscript{x} emissions have been studied at the Brookhaven National Laboratory. The decreases in emissions of SO\textsubscript{x} from all sources and of NO\textsubscript{x} from transportation projected between 1975 and 1990 may not be realized or may be less dramatic than expected due to the relaxation of emission standards. The EPA has chosen to apply clean air standards on the basis of the average emission of the entire fleet of cars produced by a given manufacturer or of an entire industrial complex rather than to enforce standards on each car model or each smokestack.

Transformation, Transport and Deposition

Once sulfur and nitrogen containing compounds have been emitted into the atmosphere from both natural and man-made sources, they may undergo many complex reactions prior to deposition. For sulfurous and nitric acids to be formed, most of these compounds must undergo further oxidation by reaction with any of a large number of oxidizing agents present in the atmosphere. It is believed that the most important oxidizing agents are the constituents of photochemical smog, especially ozone.

Although there is general agreement that the reduction of SO\textsubscript{x} emissions would decrease the acidity of rain, some scientists believe that the concentration of oxidizing agents is the limiting factor and that more reductions in the acidity of rain could be achieved by altering the mixture of gases in smoke plumes than by concentrating efforts exclusively on reducing SO\textsubscript{x} emissions.

The pH of rain in a given region is determined by three factors: the rate at which SO\textsubscript{x} and NO\textsubscript{x} are oxidized to the acids, the effectiveness of the neutralization of acidic pollutants by natural buffers and the amount of acidic pollutants emitted in that region and transported into it from other regions.

The rate of oxidation is negligible in pure air, slow at background concentrations of pollutants and relatively rapid in polluted air. Thus, the more polluted the air is, the more acidic the rain becomes. An increased rate also results as temperature and solar radiation increase; acids form most rapidly in the summer and rates are maximum in the mid-afternoon. The presence of particulates also increases the rate of acid formation. Certain metal compounds such as vanadium pentoxide adsorbed on the surface of soot particles catalyze the oxidation; oxidation should occur faster near the point of emission before soot particles have settled out. Finally, oxidation occurs faster when the reactants are dissolved in water droplets; thus, acid rain forms faster when the humidity is high and the dew point is also high.

Both ammonia, which is emitted into the atmosphere during forest fires, during volcanic eruptions and as a waste product of microbiological metabolism, and dust particles, which enter the atmosphere from alkaline soils, are capable of neutralizing acids and raising the pH of rain. Alkaline soils have been shown to emit more ammonia than do acidic soils. Regions in which soils are alkaline and much dust is generated as a result of low rainfall and/or agriculture as the main land use are expected to have rain of relatively low acidity.

The major man-made sources of SO\textsubscript{x} and NO\textsubscript{x} in the U.S. are located in states abutting or lying to the east of the Mississippi. Approximately 50\% of the emissions from these sources originate in the highly industrialized Ohio River Basin.

All regions of the U.S. except Florida and the Gulf States are influenced by the prevailing Westerly winds, as is dramatically illustrated by satellite weather monitoring presented on TV newscasts. Pollutants emitted into the atmosphere are transported by these winds to regions northeast of the source through most of the year.

The average pH of precipitation in the Eastern U.S. is presented for 1955-6 in Figure 2 and for 1975-6 in Figure 3. It can be seen that the pH generally rises as distance from the center of the Ohio Valley increases. If the threshold value (the pH at which rain...
sources of air pollution must not be ignored. Which has few industries or coal burning further steps are being taken to reduce this ing to 1982 data, the New England region local pollution. Leadership of the New England Governors, precipitation occurs on an average of 120-150 days. Residual oils, the major fuels used in New England, contain vanadium compounds utilities) contained 5.3% of the U.S. popula­ tion, averages 40-49 inches per year and pre­ vailing winds are of the southeast. Scandinavia, the northeast United States and eastern Canada are extremely sensitive for a number of reasons. First, they are downwind of both highly industrial regions and regions in which air stagnates and acids accumulate. Second, acids are not effect­ ively neutralized because soils are thin and acidic and emit little ammonia. Third, these regions are densely forested and little fertil­ izer dust is present to neutralize rain. And fourth, these regions have a high annual rainfall and a large number of annual epi­ sodes of rain which lead to a high accumula­ tion of acidic substances as the rain cleanses them from the air. New England, for example, averages 40-49 inches per year and precip­ itation occurs on an average of 120-150 days.

In addition, the importance of local sources of air pollution must not be ignored. Residual oils, the major fuels used in New England, contain vanadium compounds which catalyze acid formation. But according to 1982 data, the New England region (which has few industries or coal burning utilities) contained 5.3% of the U.S. popula­ tion and contributed only 2.6% of the total NOx and 2.4% of the total SOx. Under the leadership of the New England Governors, further steps are being taken to reduce this local pollution.


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Yet, acid rain has not damaged these areas equally. Some areas are very sensitive to acid damage while other regions, such as the mid­ west with its alkaline soils and bedrock, are not. Scandinavia, the northeast United States and eastern Canada are extremely sensitive for a number of reasons. First, they are downwind of both highly industrial regions and regions in which air stagnates and acids accumulate. Second, acids are not effectively neutralized because soils are thin and acidic and emit little ammonia. Third, these regions are densely forested and little fertilizer dust is present to neutralize rain. And fourth, these regions have a high annual rainfall and a large number of annual episodes of rain which lead to a high accumula­ tion of acidic substances as the rain cleanses them from the air. New England, for example, averages 40-49 inches per year and precipitation occurs on an average of 120-150 days.

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Acid rain is generally considered to be detrimental to the environment, the most well-documented damage being to fresh water ecology where extinction of acid sensitive species and disruption of the food chain have been observed.

Soft water or bicarbonate lakes and ponds are particularly susceptible to damage. The drainage from the water sheds of these fresh water bodies is over acidic igneous bedrock which is ineffective in neutralizing acidity, although the soil and litter layer may have limited buffering capacity. The buffering capacity of the waterbody itself is primarily due to the presence of bicarbonate ions formed as carbon dioxide dissolves. As hydrogen ions are introduced by acid run-off and precipitation (Figure 4) they react with bicarbonate ions and carbon dioxide is expelled into the air. (This same buffering system is primarily responsible for the ability of the blood to maintain a constant pH. Acids formed as waste products of metabo­ lism are neutralized in the blood stream and CO2 is carried to the lungs and exhaled. An excessive excretion of acids into the blood as a result of disease can cause acidosis and eventual death, just as depletion of the buffers in a fresh water body may cause its acid death.)

The health of a lake may be evaluated on the basis of its ability to neutralize acid influx, i.e., its remaining buffering capacity (alkalinity) (see Table 1). It has been estimated that a drop in pH is not detectable until 70% of the alkalinity has been depleted. Thus, if only pH is measured, as was a common prac­ tice in the past, considerable damage may have already been done before any change is detected.

As pH drops below 6, changes in the aquatic ecosystem occur at all levels of plant and animal life. Most fundamental are decreases in the number of species and in the size of the colonies of the lowest members of the food chain, zoo- and phytoplankton. Microbio­ logical activity is also decreased, thus inhibiting the decomposition of organic debris on the lake bottom. This not only diminishes the amount of nutrients released into the lake due to decomposition but, as debris accumulates, the influx of both nutrients and buffers from the lake bottom is diminished. In addition, as pH drops certain species of acid sensitive plants are replaced by more tolerant species such as sphagnum moss. The growth of sphagnum is detrimental because it can choke out other vegetation; furthermore, it absorbs metal ions and discharges hydrogen ions in their place, thus creating a more and more acidic envi­ ronment.

Decline in salmon populations was first linked to low pH in Sweden in 1926. A further decline in the number of species and the total fish population in Scandinavia, Canada and the U.S. has been noted over the past 60 years, with the most dramatic losses occurring in the last 20 years.

| Table I |
| Sensitivity to Acid Precipitation |
| Sensitivity Category | Alkalinity (mg/l as CaCO3) | Site, Plymouth County |
| Not Sensitive | 20 | Matfield River, E. Bridgewater* |
| Sensitive | 10-20 | Thirty Acre Pond, Brockton |
| Highly Sensitive | 5-10 | Carver Pond, Bridgewater |
| Endangered | 2-5 | Wampatuck Pond, Hanson |
| Critical | 0-2 | Lake Nippenicket, Bridgewater |
| Acidified | pH 5.0 or lower, 0 | Snows Pond, Rochester |

*Abnormally high alkalinity due to Waste Water Treatment Plant discharge

Note: Interim Report of the Mass. Acid Rain Monitoring Program shows that of the 1200 water bodies tested, 70 are acid dead, 85% are sensitive and 35% are either endangered or critical.
Two patterns of pH change can cause this drop in population. Snow melt and heavy rain in late winter and early spring can cause acid shock as large quantities of acid enter fresh water bodies when the ground is frozen (Figure 5). Alternatively, water bodies may experience a long-term gradual decline in pH.

Eggs and fish fry are particularly susceptible both to low pH and to fluctuations in pH. Acid shock which coincides with spawning and hatching is particularly damaging, especially if the pH drops below 5. Reduction of between 5-50% in viability of hatchlings can result in the eventual extinction of a species. A gradual decline in pH tends to adversely affect reproduction, spawning and development of gonads, leading to populations in which older, larger fish predominate. The most sensitive species, rainbow trout and salamanders, disappear as the pH drops below 6; plankton, crustaceans and shrimp start to disappear as the pH drops below 5 and virtually all fish and amphibians are gone and only a few acid resistant plants and invertebrates survive at a pH between 3.5 and 3.0.

The changes associated with acidification may be due directly to a change in pH, but the mobilization of toxic metals such as aluminum and mercury may also contribute. Aluminum compounds dissolved by acid rain produce gall damage, respiratory distress and death of fish at high concentrations and, if the concentration is low, they are absorbed into the blood and reduce the capacity of red cells to transport oxygen. Aluminum compounds also cause the precipitation of organic and inorganic materials from the water and may result in a decrease in nutrients, especially phosphorus. And, as these materials precipitate, the water becomes increasingly transparent which favors the growth of sphagnum.

Swedish scientists have pioneered attempts to restore acid dead lakes by adding lime or limestone either directly to the lake or, preferably, by building limestone dams in feeder streams or by diverting these streams through limestone wells. Direct addition of lime to lakes is effective only in the range of pH 6.5-7.0, and its effectiveness is dependent on the rate of water movement. Lime or limestone is deactivated as insoluble precipitates form on its surface. The return of fish and other vertebrates and invertebrates depends upon the concentration of toxic metal ions. If the concentrations are high, these species fail to survive even after a pH of 6 or above has been established. If concentrations are low, on the other hand, successful reintroduction has been reported.

Changes in the terrestrial ecosystem have not been traced to acid deposition as unequivocally as changes in fresh water have. However, evidence from laboratory studies suggests that this deposition causes disruption in nitrogen fixation and damage to the leaves of acid sensitive vegetation. From the study of tree rings, researchers in Sweden have concluded that the decrease of forest productivity since 1950 can be traced to acidification. A 50% reduction in the number of spruce trees in the Green Mountains of Vermont appears to be due to acid rain. Furthermore, it appears that nitric acid and its precursors NOx rather than sulfuric acid and SOx are primarily responsible for the destruction of forests. Since acidification increases the leaching of metal ions and other nutrients from the soil, the increased growth of acid resistant plants may be noticed in the short term. But toxic levels may be reached and nutrients may be depleted, leading to a long lasting and perhaps irreversible detrimental effect.

Buildings and works of art have also suffered from acid rain, which has accelerated the rates of metal corrosion and of the destruction of cement, plaster and limestone.

Finally, the potential damage to human health cannot be ignored. In addition to the obvious respiratory problems associated with the inhalation of acidic aerosols and particulates, the contamination of food and water supplies by toxic metals may present a hidden danger. Concern has been expressed about a possible link between the ingestion of aluminum and the faulty aluminum metabolism observed in Alzheimer’s disease. This potential link, however, is purely speculative; dietary aluminum has not been shown, at this time, to cause the onset or to accelerate the progression of this disease. However, the potential accumulation of mercury in edible fish presents a serious threat as does the possible leaching of lead from old water pipes and of both lead and copper from home plumbing systems. Municipal water supplies have not been shown to contain these metals at levels above public health standards, but well waters and edible fish have not been widely tested.

Conclusion

The story of the acid rain problem in the United States has been a story of delay. Canada, which receives 4 to 5 times as much acid pollution from the U.S. as it transmits to the U.S., has been frustrated in its attempts to negotiate cooperative acid rain legislation. Public pressure has never been stronger for the solution of any environmental problem other than that of toxic waste disposal. Yet, no decisive action has been taken on the national level. Some propose that action be delayed until more is known or until better emission control devices are available. Although many uncertainties about the exact mechanisms of acid rain formation and environmental damage do exist, there is no question that damage is being done, that man-made sources are causing this damage, that preventive measures can be taken and that further delay can only exacerbate the problem.

The enjoyment of a warm summer shower, celebrated in many lyrics, cannot help but be tempered by the dire predictions for this Thirsty Earth if leaders of the industrial nations continue to ignore the legacy of this most sour drink.

Margaret Souza teaches organic chemistry at Bridgewater. She and Marilyn Furlong, a geographer at the college, are participants in the Acid Rain Monitoring Project coordinated through the University of Massachusetts. More than one hundred water bodies in Plymouth County, many of which are susceptible to acid rain damage, are currently being analyzed at Bridgewater in the second phase of this project.
If the Summer Olympics of 1984 or the yearly Super Bowl extravaganzas are any indication, Americans continue to be sport-obsessed. It has become increasingly important that we reflect about professional athletes and the public's perception of their role in society. I would like to take a subjective, biographical look at four dominant athletes who influenced American civilization during our two Golden Ages of Sport, namely, the 1920s and the late 1960s-1970s.

The role of sport in twentieth century Western Civilization can scarcely be exaggerated. Sport is not merely a diverting leisure activity; at times it has been integrated into life and death matters. Highly spirited soldiers from British units advanced rapidly toward enemy trenches while kicking at a soccer ball during World War I (a presumably deflating experience), while at the time of the later London blitz the rule's committee of one of that city's golf clubs decided upon a one-stroke penalty for replacing any ball blown away by a bomb!

Sport came to enjoy great popularity in an industrializing and urbanizing late nineteenth century United States. Participants and observers were attracted to athletic contests that had largely outlived Puritanical condemnation as "worthless entertainment for gentlemen...and despicable rowdies."

In this century spectator sport has become increasingly associated with professionalism and commercialism. The trend away from the amateur ideal as personified by Baron de Coubertin's resurrected Olympic Games of the 1890s has disappointed proponents of competition-for-competition's sake. Money subverts. Athletes all-too-frequently cease dreaming of victory cup, laurel, and draped medal, demanding instead what critics demean as fool's gold. Bill Rodgers disturbingly lobbies against tradition, preferring to be paid for running from Hopkinton to the Pru. Obscene contracts -- forty million dollars lifetime, fifteen million dollars for seven years -- mock those hard-working citizens who make the psychologically devastating mistake of measuring their worth by salary comparisons.

The greed of players, agents, and franchise-hopping owners aside, other issues lead to a rejection of professional sports in our times. Brutality, exploitation, sexism, and racism offend. Most especially, there is drug abuse. When today's pros prefer Coke as "the real thing" who can be certain that they are taste-testing comparing with Pepsi? Certainly not a droll Senator Robert Dole who has suggested that in 1985 our nation needs decision making by realists, and that perhaps an NFL owner could lead through example by moving a franchise to sunny Colombia, South America. With so many associated problems, the cynically informed might concur with the words of Thomas Wolfe: "It is hard to get excited about the efforts of hired men."

Nevertheless, since the 1920s we have lived through "the Age of the Spectator" in historian Benjamin Rader's phrase. Millions of Americans for a multitude of reasons have lived vicariously by enthusiastically cheering for player and team. And a preponderant number of sports' most cherished crown jewels -- for example, the World Series and, more recently, the Super Bowl -- are in the professional domain.

What have the millions of loyal fans of professional sport come to expect of the performers who, over the past two generations, have provided them with entertainment? Certainly the evidence will reveal a metamorphosis of attitude as we pass through the Two Golden Ages, the first stamped with the label of "coverup," the second with the "exposure."

We can best begin with the understanding that the coverup decade of the 1920s simply represented an intensification of Victorian-era media protection accorded two of our nation's first publicly acclaimed professional sports heroes. Their athletic skills were appreciated and publicized, their off-field conduct de-emphasized. Only recently did we realize that John L. Sullivan and Michael J. "King" Kelly were questionable characters.

Roxbury-born Sullivan, "the Boston Strong Boy," was America's first lionized athlete, a colorful personality who attracted worshipful crowds wherever he went. His career took him from Boston College where he had begun to prepare for entry into the priesthood, to the life of a brawler, boozier, and adulterer. High-living, free-spending John L. left behind a wife in Boston while he toured the country on the vaudeville circuit and lived openly with a burlesque queen. His appetite was incredible. On the day of his championship fight with Jake Kilrain, he consumed three whole chickens covered...
with rice and a loaf of bread. Until he awakened with a hangover one day in 1905 and vowed temperance, Sullivan, an incredible tippler, had spent a fortune, mostly in barrooms. Even maintaining a healthy skepticism about Professor William Lyon Phelps' assertion that Sullivan once consumed fifty-six gin fizzes in a single hour (!), he doubtlessly had an amazing capacity for drink. He would imbibe for days on end, even developing delirium tremens during 1885 and almost killing himself after one spree. It was potentially hazardous to one's health to encounter Sullivan while he was on a bender, for the belligerent champ was always ready to deck those for whom he developed an instant dislike.

"King" Kelly of "Slide, Kelly, Slide" fame was a one-time Paterson, New Jersey mill bobbin boy who became the darling of National League baseball fans in the 1880s. Developer of the "Chicago" slide, now known as the hook slide, King Kel was a complete one-time Paterson, New Jersey mill bobbin boy who became the darling of National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s. Irish-developed "Chicago" slide, now known as the hook slide, King Kel was a complete ballplayer who was worth the then astronomical sum of ten thousand dollars to the National League baseball fans in the 1880s.

This redheaded's funeral was sadly premature. Kelly managed to die broke at age thirty-six after drinking himself out of the majors by 1893 and likely to death if pneumonia had not first intervened. His ribaldry had inspired the Boston trade by a Chicago organization concerned about his negative influence upon younger players. Asked whether he ever drank during a contest, Kelly stated simply, "It depends on the length of the game." Exasperated management even resorted to hiring the Pinkerton agency to report on "tenderloin district" activities of Kelly and some teammates. Confronted with damning evidence at a showdown squad meeting, the ever-candid Kelly, apparently a stickler for accurate detail, announced that "where the detective reports me as taking a lemonade at 3:00 a.m. he's off. It was straight whiskey, I never drank a lemonade at that hour in my life."

During his playing career Kelly did not abide by the principle that what counts is "how you play the game," win or lose. Here was a hustler who literally cut corners, taking advantage of one-umpire situations by scampering from second base across the pitching box (no mound then) to home plate while the arbiter was preoccupied with the progress of the ball after an outfield hit. On another occasion at dusk in this pre-floodlight era, outfielder Kelly raced backward, leaped, slammed his fist convincingly into his glove and was credited with the game-saving "catch" of a ball that had traveled well beyond his reach.

The newspapers' penchant for whitewashing the non-athletic antics of Sullivan and Kelly was precedent-setting for the next sixty years, particularly during the 1920s, "The Era of Wonderful Nonsense." Though that decade featured a galaxy of stars -- Jack Dempsey, Red Grange, Bobby Jones, Big Bill Tilden -- American spectators were overwhelmingly drawn to the self-proclaimed "national game" of baseball. This dominance had not been easily maintained, for since 1910 major league attendance had failed to keep pace with the general population growth, with World War I proving particularly disruptive.

Worse still, by the beginning of the 1920s organized baseball was sorely in need of house cleaning. Just as the country was returning to "normalcy" and the Red Scare was petering out, a distraught young boy was reputedly exclaiming, "Say it ain't so, Joe." The Great Black Sox scandal had broken. Shoeless (illiterate) Joe Jackson, Ed Cicotte and several other Chicago White Sox players had conspired with gamblers to lose the 1919 World Series to Cincinnati. Frantic owners sought to rescue the game's sullied reputation by granting absolute power to Judge Kenesaw Mountain Landis as commissioner of baseball. Nevertheless, another type of savior was required, one offering more than the simple integrity of the rigidly authoritarian Landis. Organized baseball turned to the playing field for help.

Ever since breaking into the majors in 1905, Tyrus Raymond "Ty" Cobb had thrilled baseball aficionados. By the time he retired in 1928, "Mr. Baseball" had amassed more than four thousand lifetime base hits, won twelve batting crowns, including nine successive titles, and achieved the game's highest batting average. As the most aggressive of competitors, Ty had been a terror on the basepaths who thrived on intimidating opposing infielders with his flashing spikes and slashing slides en route to stealing 892 bases.

For all his achievements, Cobb would not be baseball's savior during the 1920s. Ty, though remaining colorful and extremely competent, was by then an old-style representative of "deadball" play which had featured single runs scored by bunting, base stealing, and hit-and-run strategy. Purists might be pleased, but for the fans of the Roaring Twenties low scoring contests were a bore.

Cobb's one "failure" was in not hitting many home runs. But he was not alone. No one had ever hit many homers. This key ingredient in stimulating patron excitement was suddenly provided by George Herman "Babe" Ruth, destined to become America's best-known athlete, its quintessential hero (just ask Hank Aaron and Roger Maris). Cold statistics illustrate his remarkable
achievements. In 1919 he broke all previous records by slamming twenty-nine home runs for the New York Yankees. When his total soared to fifty-four during the ensuing season, no other major league team as a whole managed that number. Although both figures have been exceeded, his sixty homers in 1927 (one-eighth of that year's American League total) contributed to a career total of 714, the two most famous numbers in American sporting history.

The Bambino, the Sultan of Swat, revolutionized baseball. Management adapted to the sudden craving of spectators for batting power. Fences were moved in, a livelier ball was introduced, and the squeamish were delighted when a pitcher's best friend, the spitball, was banned.

Ruth, as Cobb before him, had become the great American idol. "It is part of our national history," proclaimed sports columnist Jimmy Cannon, "that all boys dream of being Babe Ruth."

Parents, beware of youthful emulation!

Ty Cobb was in fact a psychotic competitor willing to maim for victory. At his Social Darwinist best, he reminded readers of his autobiography:

I didn't play for fun.... It's no pink tea, and mollycoddles had better stay out. It's a contest and everything that implies, a struggle for supremacy, a survival of the fittest.

His career was marked by altercations, not only with opponents but with teammates as well who hazed him unmercifully as a rookie, goaded him into fistfights with the clubhouse strongman, nailed his uniform to the wall, etc. Convinced of a conspiracy against him, Cobb gave no quarter: "I had to fight all my life to survive. They were all against me... but I beat the bastards." "They" apparently included the physically handicapped spectator who Cobb once went into the stands to punch. During his career this pistol-carrying loner also slashed a hotel detective with a penknife, beat up a young butcher's assistant in an argument over the quality of a few pennies worth of food, and on two occasions was accused of assaulting what he termed "nigger" women. Before his death, Cobb had alienated family and friends. Only three representatives from professional baseball attended the funeral of this man whom sportswriters had honored as the Georgia Peach!

Ruth was a different sort who took exuberant joy in the game and loved kids because in many ways he remained one, "well named, Babe." Ruth was primitive, an elemental force, as noted by a teammate's remark: "He wasn't born, he dropped from a tree." No intellectual, Ruth confessed that his ghost-written autobiography was the only book he had ever read cover to cover—twice! Neither was he given to a moderate lifestyle; this uninhibited slugger was wantonly self-indulgent. An irate American League president Ban Johnson once vented his frustrations in a message to his frolicsome prodigy: "It seems the period has arrived when you should allow some intelligence to creep into a mind that has plainly been warped."

The advice was ignored and the Babe remained awash in food and prohibition booze. Though he broke into the majors weighing a solid 195 pounds, he worked at acquiring his famous torso, a pot belly that seemingly placed impossible pressure on his spindly legs. On a comparative basis John L. had been a crash dieter. Stories of Babe's adventures is gastronomy, some surely apocryphal, are legion. Eighteen eggs for breakfast. A midnight snack of "eskimo pie, apple pie, pigs trotters, beans, and beefsteak pie!" Or the evening when he devoured a restaurant meal consisting of a double porterhouse steak, double orders of lettuce with dressing, potatoes, and apple pie a la mode. The next stop was Coney Island where he washed down eight hot dogs with the same number of sodas. Before retiring, he returned to the restaurant and duplicated his earlier dinner feast.

And then there were the women in his life. A frequenter of brothels, Ruth had the reputation of having a girl in every town when the Yankees made their annual trek northward in 1925 after breaking spring training camp
in Florida. During this sojourn Ruth was taken seriously ill and hospitalized, supposedly suffering from "The Bellyache Heard Round the World." It is instructive to note that reporters chose to fabricate by relating the medical problem to the lesser sin of gluttony when the suspicion of insiders was that he had been stricken with "something a bit lower," i.e., venereal disease.

Hindsight provided by a plethora of biographies led to Michael Novak's 1976 devastating condemnation of Ruth as a "buffoon, a boor, a sot, a mouthstuffing, insatiable pig."

Novak's was an age for debunking, far removed from the era of Ruth's contemporary sportswriters. No such denunciation, even if inwardly felt, would have been penned by Grantland Rice or Paul Gallico who instead crusaded to convince readers of the wholesomeness of sport. These two luminaries were leading representatives of the "Gee Whizzers" school of sports journalism in the twenties. Professional sport heroes were sanctified by such writers and by the hyperbole of radio announcers whose voices helped convert multitudes of listeners into fans. It was vogue to embellish athletic performances while screening fans from the unpleasant realities.

Sports reporters thus saddled the professional athletes of the first Golden Era of sport with the responsibility, however unintentional, of being paragons of virtue. They and successors superstars were elevated into the first, the ideal citizens of the land. Despite payfor-pay lives, from that time until the mid-1960s the typical portrayal was of real-world versions of Gilbert Patten's fictional Ivy League hero Frank Merriwell. Patten, when asked to react to his own virtuous creation, had unabashedly enthused, "Yes, I loved him most because no boy, if he followed in his tracks, ever did anything that he need be ashamed of."

This time-honored image which created an innocence of expectation among propagandized fans did little to cushion them from counter-culture shock during the late 1960s. Suddenly, as professional sports popularity surged to unparalleled heights, the media assumed a new role, concomitant with the times. Premising its coverage on the validation of the counter-culture concept that it was psychologically healthier for the average American to look at one another rather than "upwards" for inspiration, TV announcers and especially writers ushered in the age of the anti-hero in sports. Demythologizing a la Jim Bouton's Ball Four became the order of the day, a show-and-tell tearing away at the cover of propriety, pricking the falsely balloonized images of perfection. America's middle class was bewildered and dismayed at this damaging assault, for virtuous sports heroes had been models for dispensing its value system. Sensing its vulnerability, the over-thirty generation was ready to react angrily and with a siege mentality.

Enter Joe Willie Namath and Muhammad Ali. These two performers have had the greatest impact on the nation of any athletes since Babe Ruth -- and greater than the Babe in the sense that their influence extended beyond the gridiron and boxing ring.

After the New York Jets won the bidding war for the University of Alabama's quarterback in 1965, "Broadway" Joe quickly helped turn the AFL pumpkin into Cinderella to the delight of its team owners who via merger of leagues began sharing bonanza TV revenue with their NFL brethren. The 1966 peace settlement did not, however, seem to guarantee playing-field parity, for Green Bay under authoritarian father figure Vince Lombardi methodically whipped AFL opponents in the first championship games climaxing the 1966 and 1967 seasons.

The next year, 1968, stands as the most tragic of a turbulent decade. The year began with the Tet offensive. Americans were then buffeted by assassinations, student unrest, the infamous Chicago convention, and a dramatic transfer of presidential political leadership. Animosities plagued a confused and polarized society.

In the wake of this chaos came Super Bowl III in January, 1969 (the year of Woodstock). The contest assumed meaning disproportionate to a mere game. Traditional NFL fans had to reckon with Namath who, to their way of thinking, had become in two ways the most offensive player in the land. Namath represented an obstruction in the movement to stay the youth culture which was associated with the sexual revolution and peace now demands. He personified the open, permissive, do-your-ownthing society. No sense in looking for support of tried-and-true values from the man who would author I Can't Wait Until Tomorrow--Because I Get Better Looking Every Day. Flouting his hedonism, eschewing the solid citizen, crew-cut image of Johnny Unitas, careless in violating sacred canons, Namath gleefully informed reporters that his Saturday night method of preparing for Sunday's big game was to "take a broad and a bottle of scotch to bed."

The dramatic mini-war game was for vindication. To the consternation of most "expert" forecasters and NFL enthusiasts the brash, never unassuming Namath ("And we're going to win Sunday, I'll guarantee you") used superb skills and intelligence in guiding his Jets to the Great Upset. Score one for the counter culture.

If Namath rankled the silent majority, Muhammad Ali came to evoke feelings of revulsion from a significant segment of middle class white America. The process was evolutionary, for Cassius Clay's life style and values were initially more satisfactory than Namath's. The apparently patriotic Clay earned gold as the light-heavyweight Olympic champion of 1960 and four years later, as a professional, gained the heavyweight crown by scoring a popular victory over scowling, presumably villainous Sonny Liston. To this point the handsome kingpin of boxing had enjoyed every opportunity to broaden his appeal. Few would deny that his considerable skills and wit were doing for boxing what Ruth had done for baseball.

Suddenly the acclaim for the Louisville Lip became muted. "I am the greatest" could be dismissed as acceptable, ticket-hyping entertainment. Dark thoughts of an uppity Jack Johnson-type champ and dreams of a Great White Hope began to develop, howsoever the year of Woodstock. The contest assumed meaning disproportionate to a mere game. Traditional NFL fans had to reckon with Namath who, to their way of thinking, had become in two ways the most offensive player in the land. Namath represented an obstruction in the movement to stay the youth culture which was associated with the sexual revolution and peace now demands. He personified the open, permissive, do-your-ownthing society. No sense in looking for support of tried-and-true values from the man who would author I Can't Wait Until Tomorrow--Because I Get Better Looking Every Day. Flouting his hedonism, eschewing the solid citizen, crew-cut image of Johnny Unitas, careless in violating sacred canons, Namath gleefully informed reporters that his Saturday night method of preparing for Sunday's big game was to "take a broad and a bottle of scotch to bed."

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Suddenly the acclaim for the Louisville Lip became muted. "I am the greatest" could be dismissed as acceptable, ticket-hyping entertainment. Dark thoughts of an uppity Jack Johnson-type champ and dreams of a Great White Hope began to develop, however, among conservative whites when he changed his name and began identifying in 1964 with the Black Muslims. This new identification came about during a period of racial tensions, urban rioting, and civil rights.
demonstrations that culminated, at least within the world of sports, with the black power clenched-fist salutes from the victory stand by John Carlos and Tommy Smith during a rendition of the "Star Spangled Banner" at the 1968 Mexico City Olympics.

Ali especially twisted the central nerve cord of American society by refusing induction into the armed services and insisting upon conscientious objector status. "I ain't got no quarrels with them Viet Congs" became a rallying slogan for youthful peace­niks who, of course, ignored the irony of their man's violent, brutalizing profession. Why balk, why not play the game? Assuredly, there would be special treatment and no worry about being sent to the fighting front. Couldn't he understand that the object was for the hero to put on a patriotic show for public consumption? History gives us the example of Jack Dempsey trying to overcome his reputation as a World War I shirker by laboring at a defense plant during World War II. Wasn't that an inspiring photo pose -- though mudslinging critics did point out Dempsey's shiny patent leather shoes!

As is well remembered, Ali refused to cooperate and was arbitrarily deprived of his heavyweight title in 1967 by a sanctimonious boxing establishment. It is true that Ali avoided jail and in time would again bask in glory after a draft-refusal conviction was reversed in 1971 by a unanimous Supreme Court decision. The judicial verdict paved the way for memorable matches which included a championship victory over George Foreman in Zaire, the "Rumble in the Jungle," and classic contests with nemesis Smokin' Joe Frazier, including the justly famous "Thrilla in Manila." Nevertheless, for more than three years Ali had been derailed at the potential peak of his career. Score one for the establishment (although this generalization is more warily offered because of strong Ali support among middle class civil libertarians who shared his dislike for American involvement in the Vietnam war)

The 1980s seem far removed from this turmoil. Now, while plying a Parkinson's syndrome afflicted Ali who slurs words and thinking of Namath primarily in terms of drunken driving and his hawking of everything from Brut to panty hose and men's underwear, we can dispassionately reflect upon public expectations of our star athletes. Our four superstars were model sports figures who unquestionably performed with excellence and courage while demonstrating total commitment. With them spectators always got their money's worth.

Different eras, personal values, and media coverage were, then, responsible for the public's dichotomous attitude. The private lives of Ruth and Cobb had gone unscrutinized, at least compared to those of Namath and Ali. Furthermore, because of natural reticence or media-imposed blinders, these giants of the twenties would never have wandered from the track to comment upon or become involved in issues and events beyond the world of sports.

Conversely, the two unbridled modern superstars thrived on media exposure of their lifestyles which often overshadowed their athletic performances. What's more, they also, particularly Ali, had the effrontery to vocally advocate political and social causes. Defenders have commended their candor and openness as pleasantly refreshing. Detractors prefer the old-time athlete and can only condemn Namath and Ali for not knowing their place and thereby degrad-
Ahenny South Cross
County Kilkenny, Ireland
c.a. 750 A.D.

Glendalough, Round Tower
County Wicklow, Ireland - 100' high
c.a. 1100 A.D.

Gallarus Oratory
County Kerry, Ireland
c.a. 7th Century
Irish Antiquities

**Liscannor, County Clare, Ireland**

**Poulnabrone Dolmen**

County Clare, Ireland

ca. 2000 B.C.

**Norman Tower**

ca. 1200 A.D.

Liscannor, County Clare, Ireland

**Kilmalkedar, Dingle Peninsula**

County Kerry, Ireland

Church: founded by St. Moolcethair in 7th Century - the present structure is 12th Century

Large stone cross

ca. 700 A.D.

Ogham stone (foreground) inscribed “Inbir, son of Brocan”

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John J. Droege, Professor of Art at Bridgewater State College, first photographed these historical monuments while traveling through the Irish countryside in 1978. He returned again in 1980, 1982, and 1984. Professor Droege has exhibited his photographs nationally.
The Ombudsman

An Institution for the Resolution of Conflict

by Nancy Meymand
Associate Professor of Sociology

The ombudsman is an independent, non-partisan third party who assists in grievance resolution. Ombudsmen have traditionally been found in government, but in the 1970s they spread to formal organizations in higher education, health and business. During the 1980s, the principal role of ombudsman, namely mediator, emerged; and apart from ombudsmanship, mediation appears to be playing a more prominent role in conflict resolution now that it did in the seventies.

Mediators have become increasingly important in dealing with neighborhood disputes, and divorce mediation has taken the intimate concerns of the family out of the public arena, assigning responsibility to the disputants to work through their own problems. A few states have laws providing for mediation as an alternative to the court system, in child custody disputes, for example.

As mediation becomes more widely accepted, professional associations are taking their claim to the role of mediator. The Family Mediation Association draws on members from a variety of disciplines, such as social work. The American Bar Association considers lawyers appropriate mediators in court-related programs. In an effort to train professionals in skills of mediation and negotiation, Harvard Law School instituted a workshop on mediation into its curriculum in 1983, and now has a Program on Negotiation.

Government Ombudsmen

The idea of an Ombudsman or “watchman” originated in Sweden when that country became a constitutional monarchy in 1809. The Swedish constitution created the office of “Justitieombudsman,” calling for a person of known legal ability and outstanding personal integrity.

In 1967 the suggestion that such an office could also be useful in the United States was made by the Thirty-Second American Assembly (a non-partisan organization). The Assembly described the ombudsman as follows:

an independent, high-level officer who receives complaints, who pursues inquiries into the matters involved, and who makes recommendations for suitable action. He may also investigate on his own motion. He makes periodic reports. His remedial weapons are persuasion, criticism and publicity. He cannot as a matter of law reverse administrative action.

Many citizens’ frustrations stem from their inability to communicate with government bureaucrats about everyday problems. The old-time politicians used to perform this function and their passage gave rise to municipal ombudsmen who bridged the gap -- mediated -- between city government and the people, who fought for conventional services, who helped people to find jobs or to have snow removed and responded in cases of crisis. Sometimes the ombudsman was a single individual, as those in Peabody and Newton, Massachusetts; sometimes it was an office. The office of ombudsman also took the form of Little City Halls which, through decentralized government, helped citizens to gain a measure of community control.

Ombudsman bills were filed in more than half of the states in the late 1960s. By 1976 four states had ombudsmen with statewide powers. They were executive (i.e., partisan) as well as legislative appointees. Although the latter preserved the essential ombudsman features of independence and non-partisanship, legislative appointees lacked clout. They tended to become incorporated into an administrative function, whereas the executive type did not. In Massachusetts, a hotline was adopted rather than a state ombudsman to deal with citizen complaints.

The State Nursing Home Ombudsman Program, federally funded and mandated within the Massachusetts Department of Elder Affairs, began in 1973 as one of six original Nursing Home Ombudsman Projects of the Federal Administration on Aging. The Program receives complaints from any source; their policy is to resolve the problems within the facility before they become crises. Legislation was passed last year providing ombudsmen access to nursing homes in the state; regulations are currently being drafted.

University Ombudsmen

Campus ombudsmen developed as a national phenomenon in the late 1960s as a response to campus unrest caused by the war in Vietnam. Student protest was precipitated by the Cambodian invasion, which in turn triggered events leading to tragedies at Kent State University and Jackson State College. Other social movements -- labor, civil rights for minorities, women's liberation -- led to confrontation between mostly disenfranchised youth and massive educational and governmental bureaucracies. National commissions in 1970 and 1971 recommended that
institutions of higher education adopt grievance mechanisms such as the ombudsman to handle complaints. The post of ombudsman had already been approved at numerous colleges and universities, such as at Michigan State University. The Princeton Report of 1970 was used as a model for most educational institutions adopting the ombudsman idea.

Popular views of the ombudsman tend to focus on impartiality, asking how can they be neutral since they represent the organization. However, examining the experiences of campus ombudsmen during the 1970s, it becomes clear that they were called upon to employ a variety of techniques in resolving grievances. Four distinct roles adopted by ombudsmen can be identified on the basis of how actively or passively the ombudsman chooses to intervene and whether his/her focus is on the individual or on the system within which the grievance arose.

In the adjacent table are examples of these four grievance resolution styles (or roles) as drawn from the experiences of campus ombudsmen in the 1970s.

Ombudsmen in colleges and universities were generally at the top level and had direct access to anyone in the college community. In public institutions they were funded by the state; in California, for example, provision for their support was made by the state Board of Regents. Ombudsmen generally had professional backgrounds and were formally appointed by the president of the university or the chancellor, to whom they were usually responsible. They were required to make annual reports that were published in the campus community. Students sometimes acted as ombudsmen.

**Hospital Ombudsmen**

The idea that there be an advocate to protect the rights of patients was suggested by Professor George J. Annas, Executive Director of the Joint Center for the Study of Law, Medicine and Life Sciences, at a symposium at Boston College in 1973. Annas argued that the patients’ rights advocate was necessary as a balancing mechanism, since there were so many advantages from the doctor’s point of view to maintain the traditional doctor-patient relationship. Yet, changing technology had drastically altered the traditional relationship between the doctor and patient, and technical skill had advanced at the cost of personal warmth. Annas explained that the advocate is not necessarily an adversary but can function as an ombudsman.

**TABLE I**

Grievance Resolution Styles of The College Ombudsman

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<tr>
<th>Orientation</th>
<th>Individual</th>
<th>System</th>
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<tr>
<td>1) Advocate role -</td>
<td>In this approach, the ombudsman actively played the role of advocate for the individual student. For example, a student might have complained about an arbitrary or unfair college rule that had harmed his or her standing. The ombudsman might decide to act as an advocate and directly confront the official college personnel to achieve a resolution.</td>
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<td>2) Mediator role -</td>
<td>This is an active approach in which the ombudsman serves to bring together elements within a community for the settlement of a grievance. For example, a student and some sector of the college (e.g. faculty member or administrator) or community (e.g. landlord) may settle a dispute when the ombudsman bridges a communication gap between the parties or negotiates some other type of resolution between them.</td>
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<tr>
<td>3) Facilitator role -</td>
<td>Here the ombudsman focuses on the needs of the individual student, but decides direct action is not necessary. For example, the problem the student has might only require some help in finding his or her way through the bureaucratic maze. This is a common complaint in problems with course registration, filling out forms for financial aid and so on.</td>
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<tr>
<td>4) Tension-Manager role-</td>
<td>In this case the ombudsman is compelled to deal with the perception by one or more elements of some system that a crisis is present or approaching. In this more passive role the management of a system crisis takes precedence over the substantive resolution of grievances.</td>
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Although many patients’ grievance mechanisms (PGMs) developed in the seventies, ombudsmen had no clear mandate in the health field. Confusion over the meaning of the term and resistance to the innovation by professional groups (doctors and nurses) inhibited their development except collaterally, i.e. advocate as ombudsman, administrator as ombudsman. Medical professionals maintained that they knew what was best for the patient and — like some faculty members, deans and other administrators who resisted the idea of ombudsmen in education, and legislators and congressmen who resisted it in government — many in the health field considered the adoption of the idea not only an encroachment on their professional territory, but a relinquishing of their claim of expertise. Patient advocates, facilitators and crisis-managers — who were usually called Patient Advocates or Patient Representatives — were evident in the hospitals; but mediators were notably absent.

Perhaps one reason ombudsmanhip failed to take hold in hospitals is that crisis management is such an integral part of the day-to-day business of taking care of sick people that medical practitioners must necessarily distance themselves in order not to be too involved emotionally with suffering: they routinely act as “ombudsmen” in the sense of being detached in dealing with patients’ complaints. The people who actually mediate between the patients and the medical team are the nurses, who carry out the doctors’ orders, and social workers, who bridge the gap between the patients, their families and the hospital staff. Social workers act as facilitators, promoting better communication between the various parties; and as mediators they have major responsibilities such as making arrangements for reentry into the community, or for nursing home placement. They facilitate decision making involving patients, their families and the medical staff; and they “cool out” the family in the process, by coordinating the exchange of information, focusing the interaction in family meetings and setting limits on emotional expression.

Advancing medical technology has created profound moral questions. Presumably the patient has the freedom (i.e. right) to choose whether or not he wishes to utilize this technology, but in some disputes between practitioners or hospitals and patients, courts are called upon to adjudicate. Some of these issues could undoubtedly be resolved
in advance by educating the patient and the family and through negotiation and mediation, in which all parties take a responsible role.

... the extent to which mediation is adopted as an integral process in our daily lives depends upon whether society emphasizes collaboration and compromise in the future, or competition and rivalry.

**Corporate Ombudsmen**

The corporate ombudsman was introduced in 1967 when Isidore Silver proposed that the "impartial grievance outlet" already in existence in the political world be adapted to the corporate realm. The Information Technology Group of Xerox Corporation, for example, created the job of "employee relations manager," outside of the corporate chain of command, reporting directly to the president of the company. He handled complaints concerning management-employee relations such as transfers, promotions, performance appraisals, inequities and discharges. General Motors established an ombudsman for scientists to consult if they perceived they were not handling stockholders' inquiries fairly or directly and that there was a continuing controversy between management and stockholders.

The business sector has adopted practices of negotiation and mediation to improve the quality of work life. Roger Fisher and William Ury of the Harvard Negotiation Project have helped to "turn adversarial battling into hard-headed problem solving" in their popular book on mediation, Getting to Yes. Mary A. Rowe, labor economist and ombudsman for scientists to consult if they perceived they were not handling stockholders' inquiries fairly or directly and that there was a continuing controversy between management and stockholders.

The Boston Globe appointed its first ombudsman, Charles Whipple, in 1975. Whipple described his role as a recipient of readers' complaints about what they feel is unfair in the news. The syndicated column of Charles Seib occasionally appeared in the Globe until the 1980 appointment of Whipple's successor, attorney S.J. Micciche. Micciche said he represented the public to the paper and the paper to the public. He too considered maintaining credibility a major task confronting the newspaper.

The present ombudsman for the *Boston Globe*, Robert L. Kierstead, was appointed in 1982. Like his predecessor, he interprets the role of the newspaper to the public along with helping them to seek redress; in other words, he mediates between the paper and the public. A former managing editor, he clarifies the paper's policy on matters such as victims and witnesses of a crime, as well as problems that arise due to time or space limitations including choices made as to what to include in the limited space, and other technical aspects of publishing a large newspaper. In cases of complaints about biased reporting -- racist remarks, ethnic stereotypes or reporting of disabilities insensitively -- he assures readers that such stereotypes have no place in a newspaper. On the other hand, he warns against censorship. He keeps in touch with the changing needs of readers through the Organization of Newspaper Ombudsman. Acting as a critic of one's co-workers, he says, can be a very lonesome job.

**Conclusion**

There are many formal and informal mechanisms for the resolution of disputes in society. Professor of Law, Frank E. A. Sanders, who teaches courses in Alternative Methods of Dispute Resolution, Mediation, and Negotiation Workshop, has explored alternatives to litigation and has proposed the "multidoor courthouse." He suggests the doors" he might be labeled "mediation," "arbitration," and "ombudsman." The role of mediator is emerging as a significant one; and the extent to which mediation is adopted as an integral process in our daily lives depends upon whether society emphasizes collaboration and compromise in the future, or competition and rivalry. Thus the ombudsman, who knows an organization intimately, and yet can view that organization with detachment, has become an increasingly valued asset in modern institutions.

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**Nancy Meymand teaches sociology at Bridgewater State College. She was an officer in the United States Navy for nine years after graduating from Boston University, where she later earned an M.A. in Sociology. Her doctoral dissertation at Boston College examined the role of the ombudsman.**
BOOK REVIEWS

The Truth About Supply-Side Economics
by Michael K. Evans
Basic Books, Inc. - 1983

Supply-side economics has generated considerable controversy in recent years. It has been promoted by some as a new cure for the nation's economic troubles -- a way of fighting inflation and unemployment at the same time. Others have criticized its goals for being unrealistic and its methods for being unfair. In *The Truth About Supply-Side Economics*, Michael K. Evans, a well-known economic consultant and a developer of several important models of the U.S. economy, analyzes the success and failures of the supply-side policies which have been implemented by the Reagan administration.

The U.S. economy experienced significant deterioration in the 1970s with the simultaneous advent of high inflation, high unemployment, high interest rates and low productivity. Supply-side economists attribute the weak performance of the economy to various factors, including high tax rates and excessive government regulation. They support policies which are aimed at reversing these factors. President Reagan has adopted many of these policies in his economic program by lowering personal, corporate and capital gains taxes and decreasing government regulation.

After outlining the Reagan program, Evans discusses some of the claims which were made about how it would work. Most of the misconceptions he describes, such as the expectation that corporate tax cuts would generate a rapid increase in investment and that interest rates would fall, are related to the timing of the results. Evans explains in detail why these events did not occur when expected.

In addition, the belief that the budget would be balanced by 1984 is analyzed. Evans asserts that a major flaw in the Reagan plan was to substantially overestimate both the amount of non-defense spending which could realistically be reduced and the increase in tax revenues which could be expected as the economy responded to the tax cuts. Increases in defense spending only exacerbated the problem. The resulting record budget deficits kept interest rates high and caused many observers to doubt the value of supply-side policies. True supply-side economics, however, requires decreases in government spending as well as in taxes.

With these "myths" examined, Evans then presents what he believes to be the "truths" of supply-side economics. Investment and saving will increase as tax rates are lowered. Higher capital spending will raise the productive capacity of the economy, while higher saving levels provide the needed funds for borrowers and help keep interest rates low.

In addition, a lower capital gains tax facilitates economic growth by encouraging the entrepreneur and venture capitalist to take the risks to start new businesses. The increase in profits and decline in interest rates from the tax cuts will serve to increase economic activity overall. In theory, this expansion in economic activity will increase tax revenues and lower the budget deficits.

... a major flaw in the Reagan plan was to substantially overestimate both the amount of non-defense spending which could realistically be reduced and the increase in tax revenues which could be expected as the economy responded to the tax cuts.

In the opinion of the author, lower tax rates not only raise productivity but also reduce tax sheltering and tax avoidance activity. Evans believes a lowering of tax rates for the wealthy will actually increase tax revenues, whereas overall tax reductions will tend to lower them. He suggests that a successful program will primarily gear its tax reductions to the rich rather than to all taxpayers across the board.

In the closing chapters, Evans describes what he believes is the optimal balanced supply-side plan. Government spending, as well as taxes, should be reduced to avoid the problem of budget deficits and high interest rates. Production will be stimulated and inflationary pressures will be lessened. Also, a flat-rate income tax should be adopted, since it could potentially raise more revenue than the present system while improving incentives to work, save and invest.

One shortcoming of the book is that Evans presents only those facts which support supply-side economics, while excluding many others. For instance, when he examines the causes of the economic problems of the 1970s, he fails to include the effects of higher energy prices resulting from the OPEC cartel. Similarly, scant attention is given to the significance of monetary policy, even though the Federal Reserve's control of the money supply is an important tool in fighting inflation. Also, it is not clear that lowering the upper income tax brackets would appreciably reduce the present budget deficits, since most tax revenue comes from the middle income group.

Another problem is that although Evans describes the expected benefits of supply-side economics in depth, he fails to give serious consideration to the costs. He advocates deeper cuts in government spending and tax rates than the Reagan administration has been able to convince Congress to make. If Evans' proposals are implemented, they are sure to have an impact on many groups in the economy and on the distribution of income. This should be carefully considered in addition to the projected macroeconomic effects.

On the whole, Evans presents a clear overview of the objectives and policy tools of supply-side economics. This informative and readable book explains many relevant concepts in economics, and provides some useful historical background on the U.S. economy.

The debate about supply-side economics is far from settled and readers should approach this book with an open mind.

Margaret Barber
Instructor of Economics
Two decades ago most prognosticators of things religious were proclaiming the imminent death of God and of religion as an important human expression in an increasingly secular world. Religion, they said, would be relegated to family and private interpersonal relationships and would no longer shape political, economic and the larger social institutions. One of those seers was Professor Harvey Cox, Harvard theologian, who, in his *The Secular City* (New York: MacMillan, 1965) articulated the assessments and expectations of many modern liberal theologians. Since 1965, however, many events have occurred that belie those predictions.

The chaotic uprisings of the late 60s and early 70s seemed proof of religion’s failures, but most observers failed to note the religious fervor that undergirded them. The anti-Viet Nam and civil rights protests were certainly religiously oriented. The decade from 1965-1975 saw a number of holy wars in the Middle East and a resurgence of religious conservatism culminating in the return of the Ayatollah Khomeini to rule in Iran. Since then we have witnessed the religious battles with Lebanon, the continuing strife in Northern Ireland, the religious tenacity of the Catholics of Poland who defy even Russian might, the near fanatical acclamation of Pope John Paul II wherever in the world he visits, the rise of Jerry Falwell’s Moral Majority and other fundamentalist religious sects and cults in America (and their perhaps decisive influence on the 1984 presidential election), and the burgeoning influence of “Liberation Theology” in Central and South America.

Professor Cox, in his most recent work, *Religion in the Secular City: Toward a Postmodern Theology* now proclaims the demise of modern liberal theology and, focusing on fundamentalism and liberation...

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_my house has grown the shadow of a woman in a window._

The thin body of the mercury measures this cold peace.
theology predicts a rising “postmodern” theology. Drawing on his personal contacts and with both movements Cox concludes that each has sprung from the ashes of failed liberal religious thinking and practices. In American fundamentalism he finds some things worthy of praise: its offering of hope to the poor and lowly, its challenge to the excesses of the secular and technological aspects of modern society, and, he notes, its respect for and use of reason. He also evinces admiration for its “feisty vitality. Beaten back into its corner on many occasions it has always emerged again, picking up stones to sling at the Goliath of modernism.”

Cox believes, however, that fundamentalism bears the seeds of its own demise. It ties itself too closely to things traditional and outdated and consequently ignores modern intellectual and technological advances. Its emphasis on the imminent end of the present age and its fascination with the coming “Rapture” leave it unable and unwilling to deal with a “this-worldly” future. For Cox, the hope of a vital postmodern theology lies instead with the liberation movement so prominent now in Central and South America.

Liberation theologians, like Gustavo Gutiérrez and Juan Luis Segundo, speak from and to the anguish of all those enslaved by poverty and political ineffectiveness. The movement has spawned a very large number (Cox estimates at least two-hundred thousand) of “base communities” — which the author describes in fascinating fashion in Chapter 8 — reminiscent of old-time Protestant Bible study gatherings. In the base community the laity are dominant. Clergy serve primarily as catalysts and advisors to their religious ruminations which may lack theological profundity, but contain marvelous insight into biblical truths and their application to the plight of the masses, each member of which sees himself/herself as one from whom Jesus personally lived and died. There is in all of this a stark challenge to the rigid hierarchy and absolute authoritarianism of the Roman Catholic Church, as one may well note from the sharp papal warnings issued from time to time to the Central/South American bishops.

Harvey Cox writes with uncommon skill. He is at his best when describing human events, but he is no less adept at analyzing their causes and meanings, though his judgments will not be accepted by all students of the modern and postmodern worlds, and he leaves some questions unanswered. I think he discounts too heavily the future of fundamentalism. He does not seem to note that while they talk incessantly of the coming end

of the world, and while their eschatological viewpoints certainly color their theology, fundamentalists live as much as anyone for each day and plan for tomorrow as would any modernist. I question, too, his almost complete faith in the base community for shaping postmodern theology and the future church. Change is surely imminent. Neither absolute papal authority nor sanctified tradition will stem its tide. There will be revolutionary political, economic, and social consequences — perhaps even a new Reformation.

If, however, as Cox believes, the base community will provide the means for the poor and powerless to become affluent and mighty, who will minister to them?

Professor Cox’s book is an important one, a worthy successor to The Secular City. Perhaps another two decades or so must pass before we will know if his insights and predictions are closer to the mark this time. They are certainly informative and stimulating. Religion in the Secular City should be read by everyone interested in developing theology and the future of the Christian church — as well as religion generally.

Milton Boyle
Professor of Philosophy and Religious Studies

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The Matter of Albany

Legs
by William Kennedy
(Coward, McCann & Geoghegan, 1975)

Billy Phelan’s Greatest Game
by William Kennedy
(Viking, 1978)

Ironweed
by William Kennedy
(Viking, 1983)

Ironweed, the third of William Kennedy’s Albany novels, opens with a visit to Saint Agnes Cemetery by Francis Phelan, aged 58 and a bum on the lam for twenty years. It is the morning of Halloween, October 31, 1938, and the visit does not go unnoticed:

Francis’s mother twitched nervously in her grave as the truck carried him nearer to her; and Francis’s father lit his pipe, smiled at his wife’s discomfort, and looked out from his own bit of sod to catch a glimpse of how much his son had changed since the train accident. Francis’s father smoked roots of grass that died in the periodic droughts afflicting the cemetery. He stored the root essence in his pockets until it was brittle to the touch, then pulverized it between his fingers and packed his pipe. Francis’s mother waved crosses from the dead dandelions and other deep-rooted weeds; careful to preserve their fullest length, she wove them while they were still in the green stage of death, then ate them with an inimitable revulsion.

These are strange, fascinating novels, combining gritty realism in the Irish American tradition of James T. Farrell, blasé flights into supernaturalism as in the “magic realism” of Gabriel García Marquez, and occasional passages of compassionate lyricism, reminiscent of the fictions of William Goyen. In fact, a good epigraph for the series, for Ironweed especially, is the reverie of “Arcadia,” in Goyen’s last novel of that name: “I lay awake and thought about it, about turned-away things, things not taken, things thrown back or let go, or the light in them put out by fear.”

The support of Saul Bellow and a MacArthur Foundation “genius grant” (five years of economic freedom to keep writing) have made William Kennedy famous (in a literary way) and provided an audience for his novels, all of which were rejected many times by many publishers over the past ten years. Now available in a single-format paperback package from Penguin, Kennedy’s three Albany novels emerge as a connected trilogy which shares a setting, New York’s down-at-the-heels capital city, a time frame, roughly 1925 to 1938, and a vivid, various cast of characters both dead and alive, bums and bootlickers and honest workingmen, newspapermen, politicians, gamblers, and gangsters.

These three novels constitute a trilogy because of the effect of focusing in and down that reading them in sequence provides. The first is a fictionalizing of the life of a real and famous person: the notorious underworld figure, Jack “Legs” Diamond, “not merely the dude of all gangsters, the most active way to glory and riches.” The story of Legs takes in the six years, from 1925 to 1931, of his friendship with Albany lawyer Marcus Gorman, who narrates the events. The accent is on the last three years, during which Gorman works for Legs and ending with Diamond’s shooting death in Albany, but
there are flashbacks all the way to Legs's late-nineteenth-century childhood in the Philadelphia Irish ghetto. The second novel, *Billy Phelan's Greatest Game*, describes one week in late October, 1938, in the lives of small-time hustler Billy Phelan and journalist Martin Daugherty (the narrator here) who find themselves mixed up in the kidnapping of the son of Albany's most powerful political boss. And the third novel, *Ironweed*, details two days, October 31 and November 1, 1938, in the life of Billy's father Francis, an alcoholic derelict and seemingly the least consequential of men. Here the narrative is omniscient and much more lyrical, and it includes the final acts and thoughts of three other homeless hobos, whose deaths punctuate the book with resonant emotional impact.

Kennedy's uniquely moving prose needs to be quoted. Here is one piece where he describes Francis Phelan finding sleep out in the open in sub-freezing weather, late on the first of the two nights of *Ironweed*:

The new and frigid air of November lay on Francis like a blanket of glass. Its weight rendered him motionless and brought peace to his body, and the stillness brought a cessation of anguish to his brain. In a dream he was only just beginning to enter, horns and mountains rose up out of the earth, the horns -- ethereal, trumpets -- sounding with a virtuosity equal to the perilousness of the crags and cornices of the mountainous pathways. Francis recognized the song the trumpets played and he floated with its melody. Then, yielding not without trepidation to its coded urgency, he ascended bodily into the exalted reaches of the world where the song had been composed so long ago. And he slept.

What the main characters in these three novels have in common is integrity, of sorts. And a resolute refusal of illusion or self-delusion. By far the worst is Legs Diamond, an underworld potentate and cold-blooded murderer. And yet, in the eyes of Marcus Gorman, he emerges as a true and admirable paragon: "He was a liar, of course, a perjurer, all of that, but he was also a venal man of integrity, for he never ceased to renew his vulnerability to punishment, death, and damnation. It is one thing to be corrupt. It is another to behave in a psychologically responsible way toward your own evil." A self-consciously mythic figure, Jack Diamond (born John T. Nolan) is a lot closer to Jay Gatsby (born Jimmy Gatz), who also emerged from his own Platonic conception of himself, than to "lesser later-day figures such as Richard Nixon, who left significant history in his wake, but no legend; whose corruption, overwhelmingly venal and invariably hypocritical, lacked the admirably white core fantasy that can give evil a mythical dimension." As Marcus Gorman points out, "Only boobs and shitheads rooted for Nixon in his troubled time, but heroes and poets followed Jack's tribulations with curiosity, ambivalent benevolence, and a sense of mystery at the meaning of their own response." This may sound like a romanticizing of hardness and violence, but it isn't. Kennedy's notable achievement here is the creation of a true "sense of mystery," one rooted in another paradox -- the mixture of realism and self-generated fantastic legend that Legs Diamond's life represents.

**Driven by a visionary imagination and an austere sense of values, William Kennedy has created a world that commands attention and forces thought.**

As for Billy Phelan, he seems to his observing narrator, Martin Daugherty, "more specific than most men," in fact, "fully defined at thirty-one." He refuses to join either side in the deadly kidnap game that turns the Albany underworld inside out, although the cost is ostracism from his joy and livelihood -- immersion in the city's hustling night scene. (Martin calls him "a generalist, a man in need of the sweetness of miscellany.") Martin also considers Billy "a strong man, indifferent to luck, a gamaster who accepted the rules and played by them, but who also played above them, . . . a healthy man without need for artifice or mysticism," and (another paradox) "a serious fellow who put play in its proper place: an adjunct to breathing and eating." And when an inadvertent tip from Billy brings the kidnapping to a happy ending, Martin credits him with unconscious, intuitive knowledge "touched with magic," and calls him "not only the true hero of this whole sordid business, but . . . an ontological hero as well." To be sure, this is a heavy load of meaning for the life of a small-time bowling, cards, and pool hustler to carry, but again, as with the story of Legs Diamond, Kennedy is convincing.

Finally, there is a progression to the least, and greatest, of the protagonists of the Albany trilogy. Francis Phelan is an alcoholic vagrant, the accidental killer of two men with a share of responsibility in several other deaths, and a twenty-year deserter of his wife and two children. And yet Kennedy creates him as a plausibly heroic figure, in words that come not from an identified narrator, but, seemingly, from the inarticulate soul of Francis himself:

He believed he was a creature of unknown and unknowable qualities, a man in whom there would never be an equanimity of both impulsive and premeditated action. Yet after every admission that he was a lost and distorted soul, Francis asserted his own private wisdom and purpose: he had fled the folks because he was too profane a being to live among them; he had humbled himself willfully through the years to count er a fearful pride in his own ability to manufacture the glory from which grace would flow. What he was was, yes, a warrior, protecting a belief that no man could ever articulate, especially himself; somehow it involved protecting saints from sinners, protecting the living from the dead. And a warrior, he was certain, was not a victim. Never a victim.

The two days and nights of this novel, All Souls' and All Saints' Days of the year 1938, are eventful for Francis Phelan. He gets sober and gets drunk, he eases the last hours of two dying hobo-companions, he finds the body of Helen, his on-the-bum girlfriend of a decade, he kills a man, he comes home to his wife and family for dinner for the first time since 1916. In addition, through the course of these forty-eight hours, Francis meets and converses with all of the important ghosts of his past -- from his parents, to companions of his youth, to those in whose violent deaths he has been implicated. Is this delirium tremens or is it "really" happening? The quality of the writing makes the question irrelevant. It is simply one more of Kennedy's successfully wrought paradoxes that this least deluded of men has plausible encounters with the dead.

None of this catches the texture of these extraordinary novels. They must be read to be appreciated. In all three, a place, a time and a group of people are imagined with intensity and fullness. Driven by a visionary imagination and an austere sense of values ("IRONWEED: The name refers to the toughness of the stem"), William Kennedy has created a world that commands attention and forces thought.

Charles Fanning
Professor of English
Though conservative politicians tend to portray socialism as a unified, monolithic force, its history as an American political and ideological movement is, as Betty Mandell reports, anything but unified. To understand something of the issues with which the movement has struggled, a bit of background may be useful.

In 1929 the Communist League of America (later to change its name to the Socialist Workers Party - SWP) was founded on principles articulated by the Russian revolutionary Leon Trotsky. By 1940 the SWP was split over this issue of whether to defend or oppose Russia in the coming war. Some in the SWP who saw Russia as a "degenerated worker's state" continued to defend Russia against all capitalist foes. Others, including Max Shachtman (one of the founders of the Communist League in 1929), argued that Russia was merely a "bureaucratic collective" in which a new bureaucratic class ruled in contradiction of workers' interests.

Shachtman and others split from the SWP and formed the Workers Party (WP) which remained a formal political party only until 1948 at which time, having been labeled subversive by the Federal Department of Justice, it became an educational organization called the Independent Socialist League, (ISL).

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Choose. Choose between Russia and the United States. Choose between Cuba and the United States. Choose Between China and Russia. Choose between starvation and totalitarianism. Choose between cold war rhetoric and communist infiltration. But why? Are there no other possibilities? Can a socialist be independent of popular definitions of socialism which force such awful choices? Can she or he proclaim that Russia, China, Cuba are not socialist, and at the same time try to move the United States toward genuine democratic socialism?

There were some radicals in the 1940s and 1950s who did just that. In the words of the anarchist Max Nomad, they felt like "a bone that two dogs are fighting over and someone asks the bone whose side it is on." To the cold war fight, they said, "A plague on both your houses." In 1948 this small group of radicals, called the Worker's Party, was placed on Attorney General Tom Clark's list of subversive organizations. In 1958 they were removed from the list. Then they disbanded.

Twenty-six years later, on May 6-7, 1983, some of that small group and a few friends reassembled at New York University's Tamiment Library for a Workers' Party/Standing Fast conference to reminisce about old times and to celebrate the acquisition by N.Y.U. of the papers of the man who had been the leading theoretician of the Workers' Party, Max Shachtman. I attended that conference, and felt like I was stepping back into a little known, but important, page of history. Small as the group was, it was influential in the intellectual development of the left. Some members of the group are famous today, including Michael Harrington, whose book The Other America fired the first shot in the War on Poverty; Irving Howe, literary critic, renowned author (World of Our Fathers), and editor of the journal Dissent; Dwight MacDonald, literary critic and essayist; novelist Harvey Swados; and labor activist Bayard Rustin.

The conference consisted of three separate panel discussions. One focused on the Workers' Party, another on Harvey Swados' 1970 novel Standing Fast as a portrayal of the Workers' Party, and the third on three journals which had their roots in the Workers' Party: Politcs, Dissent, and New Politics. Invitations were sent to former Workers' Party activists, some friends, and some contributors to early issues of the journals. The invitation list was a story in itself, combining those who had stood fast in their radicalism and those who had turned to the right. As Phyllis Jacobson, editor of New Politics, put it, "In this small gathering there sits both the Old Left and the New Right."

The invitation list also contained a sprinkling of radicals turned social democrats, such as Michael Harrington and Irving Howe. (Neither attended.) Perhaps the largest irony of the Standing Fast conference is that the central figure, present only in the consciousness of the participants and in the papers on display, Max Shachtman, had not stood fast, having ended a brilliant radical career by ignobly supporting the American involvement in Vietnam. This split between those who had turned toward the Right and those who had remained true to the original principles of the Workers' Party set the stage for some tense conference debates. Some people had even refused to participate because of their rage at those who had turned to the Right.

There was pride, there were regrets, and there were ambivalences that seemed never to have been resolved. Everyone was proud that the Workers' Party had presented a political choice that was independent of both the capitalist countries and the countries calling themselves socialist but run, in fact, by a privileged bureaucracy. The Workers' Party had kept alive an independent political perspective through the 1940s and 1950s, and as individuals, even through the 1960s and to the present. As some Leftists were chanting "Ho, Ho, Ho Chi Minh,"
those with a Workers’ Party analysis criticized the totalitarian politics and tactics of the American Communists while opposing American involvement in Vietnam. One speaker commented that when neo-conservative Irving Kristol points to so-called socialist countries and jeers, “Look what happened to socialism,” a Workers’ Party analysis would point out, “But that’s not true socialism—if it’s not democratic it’s not socialism.”

There were regrets, however, about the route Max Shachtman had finally taken, and these regrets mingled with the regrets about the failure of the Workers’ Party to provide a bridge between the Old and the New Left. It was pointed out that even Dissent, one of the most important Leftist journals in America, had been more critical of the New Left than of the Vietnam war. Participants recalled that at the time of the Fort Huron Statement, the founding credo of Students for a Democratic Society, the SDS had gone to Irving Howe and Michael Harrington for guidance and been rebuffed. Harrington and Howe had moved so far to the Right that they were no longer opponents of American imperialism, and had opposed an American unilateral withdrawal from Vietnam.

Another painful split within the movement, that between the Old Left and feminists, was glaringly revealed when one of the panelists, Albert Glotzer, told of how the journal Labor Action had an entirely female editorial board during World War II (since so many men were in the armed forces) then added, “But we managed.”

It was easy to discover sexism in the work of group members. It was obvious in Swados’ novel Standing Fast, for example, but no one mentioned this—if indeed, they were aware of it when they read the book. Swados himself may have been unaware of it when he wrote it. The “important” characters in the book are all male, and even when children of party members are portrayed, only the male children are fleshed out. Women play supporting roles in every sense of the word, and even their lovemaking is shaped by male promptings that sometimes seem to suggest a “raging hormone” theory of male sexuality. At the conference sexism seemed to be just one aspect of the generally strident tone of the discussions, in which women dominated.

More than one person commented on the sharp and often acerbic polemics that had prevailed in the old days, and in fact occasionally bubbled up again at the conference. (Like mothers anxious to keep the family peace, a couple of women urged people to be kind.) From all accounts, Max Shachtman, while a brilliant polemicist, debater, and theoretician, was often caustic and sarcastic.

One participant characterized the usual tone of discussion as follows: “Not only must you defeat your opponent in debate, but cut him in several pieces and stomp on him.”

In the discussions about the Workers’ Party position on World War II, old doubts resurfaced. While the Workers’ Party supported resistance movements in Europe, they had advocated resisting the war by the continued prosecution of the class struggle, e.g. through strikes, and they could not support capitalist powers, even though they were not conscientious objectors and most did serve in the Armed Forces. In view of their predominantly Jewish membership, it was difficult not to support Allied capitalist opposition to Hitler.

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**Party members believed that capitalism was in its death agony and that revolution was just around the corner.**

More than one speaker claimed to have become “older and wiser.” Articles in the New International or Labor Action had often been prefaced by the phrase, “In this period of the death agony of capitalism . . .” Although Workers’ Party members had a sense of history, their thinking was often reductionist. During the war, they assumed that revolution was just around the corner. Perhaps, it was suggested, this sense of “being right,” of “knowing the way” had faded with age, with tiredness, and with the real threat of the atom bomb. They had been naïve about some of Trotsky’s theses, for example the colonial belief that India couldn’t be free of English rule without a socialist revolution. Even when events disproved certain of Trotsky’s theses, some Workers’ Party members still clung to his outdated theories. For those people who saw the world as “infinitely more complicated than we thought it was,” the old certainties were gone.

The conference also saw the resurfacing of an old, many-sided debate over political orthodoxy. People within the movement disagreed strongly as to what variety of Marxism the Workers’ Party had represented. Those who imagine that Leftists are unified in their aims would surely have been enlightened to witness the differences expressed by old colleagues in New York.

Part of the debate focused on whether the original Workers’ Party had been truly Leninist. One side said it had not been Leninist since the Workers’ Party had promoted democratic ideas while Leninism was associated with an anti-democratic, one-party state. The opposite view was that the Workers’ Party had been Leninist in its commitment to the success of the Russian revolution, and to the idea that the suppression of opposing parties after the revolution was due to the treachery of Social Democracy, not to the Bolsheviks’ Left-wing principles of party organization. Others, preferring Trotskyism for its “theoretical rigor,” criticized the Bolshevism of the Workers’ Party for its “sterile and narrow-minded orthodoxy, hierarchy, cliches and resistance to change.”

The theme of differences within the movement was addressed most directly when the sociologist Lewis Coser, a co-editor of Dissent, discussed the rich cultural tradition that many Workers’ Party members had brought with them from Europe. Many of their children, like the radicals depicted in Standing Fast, had discarded those ethnic and religious traditions in their eagerness to be citizens of the world. One participant, who was once in the Catholic Left but is now a religious Jew, thought the Workers’ Party had ignored cultural differences, seeking to build a movement that reflected America as a melting pot rather than a pluralistic society. He argued the need to pass on traditions, disinclining the enormous rancor between the Old and the New Left. In Standing Fast Harvey Swados dealt with the tragic gap in understanding between radical generations. He wanted to prevent this breakdown between generations by describing what they had in common. For this effort, Swados was described at the conference as “one of the great heroes of our time.”

In the final analysis, what effect did the Workers’ Party have on history? The government considered the Workers’ Party dangerous and the Workers’ Party responded to that evaluation by taking assumed names and going underground. Party members believed that capitalism was in its death agony and that revolution was just around the corner. Many deferred college education and other pursuits, committing themselves to building a mass base among the workers in preparation for the impending revolution. The revolution was not in fact “around the corner,” and the majority of American workers did not develop revolutionary consciousness. In time a sizeable number of Workers’
Party members wearied of the struggle or stopped believing in it, turning to their consumer comforts, and often actively supporting the capitalist government they had struggled against in their youth. Did they achieve no more importance than to become quaint objects of study for Ph.D. candidates holed up in the carrels of the N.Y.U. Library?

In the novel Standing Fast one of the characters, Paul, was murdered. His agonized father, trying to make sense of Paul's murder and his own life, cries, "You know what all of us are? Not even a footnote. . . . Roosevelt and the war that you were against, Truman and the war that you were against, Eisenhower and the McCarthyism that you were against. . . . Who cared what you thought? Nobody but a handful of cranks and psychopaths. Nuts, freaks, unhappy like me. . . ." His friend replies, "One way or another, we tried to keep an idea alive. There weren't enough of us, there never are. We ridiculously wrong about a lot of things but wasn't? And what idea did they keep alive, others?"

I feel that those who kept the faith have so brilliantly. After the official demise of the Phyllis and Julie Jacobson published New as a platform for socialists who maintained a radical perspective that was both anti-Stalinist and anti-capitalist. They published articles by the imprisoned Polish radicals Jacek Kuron and Karol Modzelewski, later to be founders of KOR and eventually the Solidarity movement. Although New Politics discontinued publication in 1978, the Jacobsons are laying the groundwork for reinstating it. C.L.R. James had an important influence on both African and Caribbean radical movements. Hal Draper has continued the Workers' Party tradition of theoretical rigor in his recently published multi-volume analysis of Marx and Engels. He and his late wife Anne provided an outstanding example of leadership to the youth in the International Socialists, the successor to the independent Socialist League. Others have worked with the New Left and continue to be active in many struggles, including the anti-nuclear, anti-imperialist, ecological, and feminist movement. And it was apparent at this conference that some of the old Workers' Party members had kept their lively young minds, despite their wrinkles and greying hair. They not only had not turned against youth, but they had allied themselves with the best thinking of youth to stand fast in the tradition of democratic radicalism. It is perhaps not in spite of debates with the Leftist movement that it persists, but because of them.
lished in 1966 and serves as a society for graduate students in the physical sciences.

My glimpse of college life was acquired by joining Wadham College as a visiting scholar. As such I was granted privileges to use the Fellow's reading rooms, the organ at the chapel, the library and some of the garden events. My first meal at Wadham verified the authenticity of scenes from films where dons in academic regalia are served elaborate meals at the High Table and black-robed undergraduates utter a quick “grace” in Latin in vast candle-lit dining rooms.

The University has an enrollment of some nine thousand undergraduate and three thousand graduate students “reading” a variety of specialties. Thanks to the highly competitive “weeding” system of English education, only the most promising students are admitted to Oxford. Once an applicant gets accepted by a College, he/she assumes a privileged position: a nominal tuition (Oxford is state subsidized), private quarters, and a self-paced method of studies supervised individually by dons (tutors). I was truly impressed by the self-discipline and academic performance of eighteen to twenty-one-year-old students who can concentrate on scholarship despite the numerous social events in town. This does not mean that one never hears loud rock music and singing late on Saturday nights; romance is highly visible on warm Saturday afternoons on the banks of the Isis.

Our Bridgewater students may well envy their Oxford colleagues in their curricular and graduation requirements. For at Oxford undergraduates do not attend formal lectures, nor take course examinations. Instead, they “read” (major) a declared academic discipline under the personal guidance of a don by reading books, attending seminars and meeting science laboratory requirements. At the end of their third year, candidates, fully garbed in black robes, sit at the Examination School for two weeks of grueling written questions prepared by a committee of dons. The small fraction of students which passes with “High Honors” can look forward for advanced training with full scholarship; the rest of the graduates usually acquire choice positions in industry or government or continue with graduate school at other universities.

Oxford attracts numerous graduate students from all over the world to study for the D.Phil. (however Cambridge offers the Ph.D.) or the professions, such as architecture, law and medicine. Although the university operates on the trimester cycle, scholarship flourishes continuously in laboratories and through lectures by prominent visitors. The sciences are relative newcomers to Oxford — Robert Boyle postulated his gas laws there in 1655 — and the laboratories are located along South Parks Road, on the periphery of the core “campus.” Instead of traditional departmental structure, a unit of academic research is identified as a “laboratory.” Thus Clarendon (Physics), Dyson-Perrin (Organic Chemistry) each has autonomous administration and research facilities. Yet there is close cooperation among the various research groups ranging from medicine to physics. It is in one of these units, the I.C.L. where I participated in research under the general topic of “Calcium-Binding Proteins.”

Muscle Biochemistry: All living systems respond to three types of stimuli: mechanical, electrical and chemical. The chemical element calcium (Ca) acts as a trigger for the contraction of muscles in response to stimuli. Such a contraction involves the chemical binding of Ca to certain atomic sites in a variety of proteins in muscle cells. Relaxation of muscles occurs as a stimulus is removed and the calcium separates from the protein.

For years scientists have studied this complex switch-on-and-off chemical interplay in calcium-binding proteins in order to understand cause and cure for disorders leading to such diseases as muscular dystrophy and heart ailments. Part of the difficulty in such studies stems from the complicated structure and binding behavior of both extracellular (e.g., blood clotting prothrombin) and intracellular (e.g., muscle calmodulin) proteins. Proteins are very large molecules consisting of a chain of many amino acid (AA) molecules, where, unlike the identical members of a chain, each AA is unique. Furthermore, the “chain” of a protein constantly changes its shape, much as a coiled snake, as cell experiences a myriad of activities at all times. It is these “conformational” changes of protein behavior during muscle contraction which continue to be studied in Professor R.J.P. Williams’ Laboratory at the I.C.L. Oxford; that study was one of the drawing forces for us to go to England.

Bioinorganic chemistry is a new scientific discipline which studies the critical role of inorganic species (e.g., Ca) in biological systems (e.g., muscle cells). My first homework as an inorganic chemist at Oxford was to learn some basic biological concepts and techniques in the biochemistry laboratories of the medical school. In a large research group each worker assumes the responsibility to investigate a specific segment of a complex problem. The grand design of a research project is conceived and orchestrated by a resident Professor to whom all supplications and praises are directed — at least publicly. As a visiting scientist, I was offered choices on a variety of proteins (intestinal, skeletal, heart and brain) to study and eventually settled to investigate the behavior of the protein S-100 derived from...
from bovine brain. And I was totally unprepared for my first experimental assignment; a visit to the slaughterhouse at five a.m. to collect fresh cow brains, each weighing about one-half kilogram (one pound).

After eight days of continuous isolation and purification procedures, we isolated some 20 mgs (1 mg = 1/1000 gram) of the white crystalline Ca-binding protein S-100. Our primary objective then turned to the location of the precise structural changes within the protein during nerve impulse transmission and to the identification of those oxygen atoms which bound to calcium. To appreciate the complexity of protein interactions, we should briefly review the generally accepted “sliding filament” mechanism of muscle action first proposed by the eminent English neuroscientist Andrew Huxley in the 1960s.

Figure 1 depicts the anatomy of muscle action. Skeletal muscle cells contain parallel bundles of two types of myofibrils: thick and thin.

The thick filament has two parallel myosin “rods” which terminate as two “heads,” whereas the thin filament contains the three proteins known as troponin, tropomyosin and actin. At rest, these two filaments are very close to each other, but do not touch. When a stimulus is transmitted from a dendrite through the axon, the nerve synapses release such neurotransmitters as acetylcholine, adrenaline and dopamine to smooth muscle, which in turn initiate the role of calcium in muscle contraction (see Figure 2). It is this rush of extracellular calcium into the cell which triggers the mechanism of muscle contraction by sliding the parallel filaments such that the myosin head (thick) “touches” the actin tail (thin) through the binding role of calcium. When the stimulus is removed, the actin-myosin connection is severed as the calcium migrates back to the outside of the cell through its membrane.

But how can scientists “see” these chains of sub-microscopic events which occur millions of times in each second of our existence? Indirectly, by using a powerful analytical technique known as nuclear magnetic resonance (NMR) spectroscopy. Incidentally, NMR, a low-energy phenomenon, is expected to replace the high-energy (dangerous) X-ray as a tool in diagnostic medicine. With the aid of computers, the NMR spectrometer scans the entire chain of a protein and gives vital information on both the abundance and location of such atoms as carbon, hydrogen, nitrogen and phosphorous in a cell. This observation is plotted by the instrument on a chart in the form of peaks, giving us an NMR spectrum of a compound, as depicted in Figure 3.

When I left Oxford in late August, another researcher from New Zealand replaced me, expecting to go through the same cycle of excitement and disappointments in her search for the microscopic mosaic of protein biochemistry. Perhaps my greatest reward from that Oxford experience would be to realize my tiny contribution in the understanding and treatment of muscular dysfunctions through bioinorganic chemistry.
Impressions of CHINA

Modern day China is marked with contrasts of the old and the new. In the cities standing among the high rises are the traditional single-story houses with tiled roofs and enclosed walls. In the rural areas, while most Chinese live in brick and mud houses, some peasants still live in barrel-vaulted caves carved into the loess. In our travels we had to compete on the roads with trucks, jeeps, buses, a few cars, and countless bicycles and animal-drawn carts. Though private ownership of automobiles is now possible (although the prices are exorbitant), bicycles are the primary means of personal transportation. The cyclists are very skillful in maneuvering in the rain, around the potholes and among the busy traffic. While most roads in the urban areas are paved and well maintained with dividing strips between bicycle lanes and motor lanes, in the countryside roads are mostly gravel or dirt.

Of special interest to me while in China was the strides made by Chinese women toward full equality with their male counterparts. In many respects Chinese women are liberated. They comprise half of the workforce in the nation and are often employed in traditional male occupations; however, complete social and cultural equality is still to come. Perhaps the most impressive aspects of human relations in China are the respect for the aged and the love given the children. We did not see any beggars or homeless wanderers in our travels. Crime and juvenile delinquency are minimal. Posters urging vigilance against thieves, rapists and other criminals are visible everywhere.

Economically, the shift from ideologically-oriented Marxism to pragmatic socialism in recent years is reflected in growing foreign trade and the use of material incentives. Farming is still the main occupation, however, communes and collective production have given way to individual autonomy in production choices and free farm markets. Being allowed to retain some of their profits, farmers are now wealthier than laborers. Small capitalist entrepreneurs have even sprung up in order to handle the tourist trade.

While in China we visited a university, a city-run middle school (equivalent to our secondary school) and a brigade-run primary and junior middle school. Universal primary schooling is practiced. The usual period of primary schooling is five years with the entrance age at seven. Recently, the move has been to lower the age to six and extend the period to six years. In some urban schools, foreign languages, chiefly English, are introduced as early as the second grade, but in most cases, languages are started at the junior middle school.

The middle school is divided into junior and senior levels, each with a three-year curriculum. Subjects include physics, chemistry and biology among others. The laboratories have relatively sophisticated equipment. At the end of each level, a qualifying examination determines the student's eligibility to the next level. Only five percent of the senior middle school graduates qualify for the university. Since 1977, with the end of the cultural revolution, academic achievement is once again used as the criteria for advancement not political activism. The curriculum at all levels is highly structured and intensive. The methodology promotes conformity.

Political party control is prominent at all strata of life. Currently the mandate from the Communist leadership is to achieve the four modernizations -- agriculture, science and technology, defense and industry. Sending students overseas to learn science and technological skills and inviting foreign experts to the country are some of the prominent means of speeding the modernization process.

Although China has suffered from three centuries of deliberate stagnation under the Manchu dynasty (1644-1911), and was exploited by western powers in the nineteenth century and devastated by the civil war in the twentieth century, under Communist leadership the country has experienced definite improvement. Adult literacy programs and the relatively new education system has reversed the eighty percent illiteracy rate. The universal use of mandarin in schools throughout China makes communication among people of different regional origins easier. The government policy of moving people from one area to another has further broken down regionalism. The end of rationing of consumer goods such as grains, cooking oil, cotton cloth, in the 80s, has greatly enhanced the living conditions of the average Chinese citizen. During our stay we did not see lines for necessities. The free markets showed plenty of goods. The department stores were mobbed with buyers. New construction could be seen everywhere. People looked happy.

If the current policies of the government which embrace some elements of the private market economy are retained, China can be expected to modernize at a quicker pace than under the Maoist revolutionary system. Despite its enormous population and its underdeveloped state, China seems to be effectively forging a new society that still clings to the past.

Joyce C. Leung
Reference Librarian

In September of 1984 Joyce Leung was part of a delegation from Bridgewater State College that traveled to China to negotiate a faculty-student exchange program with Shanxi Teachers' University. While in China she visited five cities in the northern part of the country including the capital of Beijing.
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