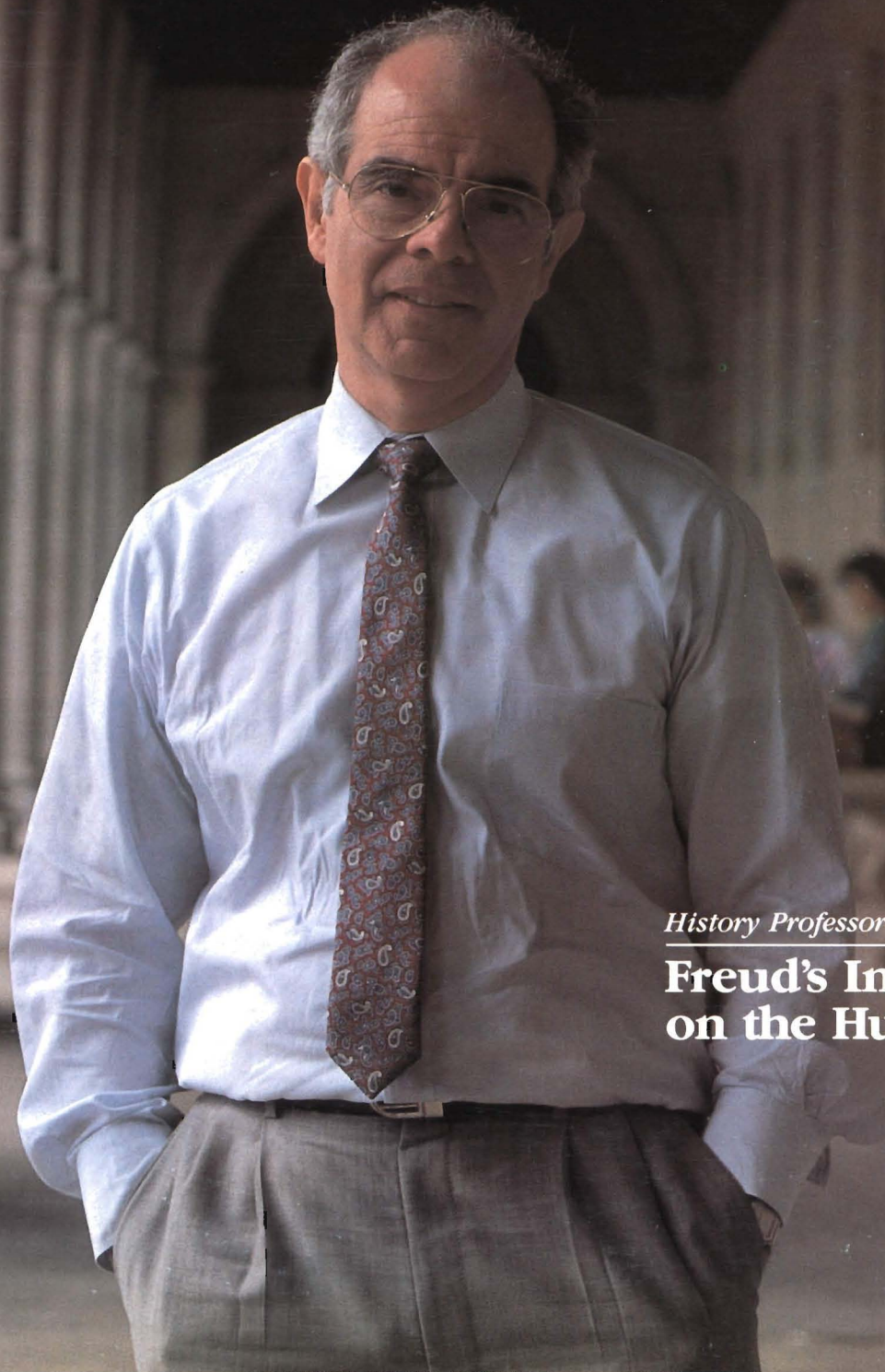


Washington

Washington University Magazine St. Louis



History Professor Gerald Izenberg

**Freud's Influence
on the Humanities**



Interior of the Gold Room. A 19th-century drawing in graphite and brown ink with watercolor by Anna Alma-Tadema. From the exhibit, "Master Drawings from the Nelson-Atkins Museum," which will open at the Gallery of Art September 22 and run through December 3. (Bequest of Mr. Milton McGreevy)

Washington

Washington University Magazine St. Louis

Editor

Roger Hahn

*Associate editor and
photographer*

Herb Weitman

Art director

Suzanne Oberholtzer

Executive editor

Mary Ellen Benson

Frontrunners **2**

The latest in research, achievements, and other adventures, from around the campus and beyond.

The Humanist Freud **6**

Studies in the humanities benefit from the influence of psychoanalysis.

The Foulest and Nastiest Creatures **12**

Edgar Grunwaldt's practice at the end of Long Island puts him right in the heart of Lyme-disease country.

Naming the Stars **18**

Into a star; the old singer sang as he moved toward the House of Mystery, *Into a star you have cast yourself*.

Call to Arms **26**

Opening at Lehigh University this spring, the ATLSS Center is John Fisher's challenge to the construction industry.

Back to the Classroom **31**

Combining personal support with professional commitment, the Post-A.B. Program retools a new influx of teachers.

On the cover: Trained as a psychoanalyst, History Professor Gerald Izenberg is writing an account of the Romantic poets. Photograph by Herb Weitman.

Volume 59, Number 2

Address changes: Development Services, Campus Box 1082, Washington University, One Brookings Drive, St. Louis, MO 63130-4899.

Correspondence: Magazine Editor, Campus Box 1070, Washington University, One Brookings Drive, St. Louis, MO 63130-4899.

Washington University Magazine is published quarterly.

Unless otherwise noted articles may be reprinted without permission with appropriate credit to *Washington University Magazine*, Washington University in St. Louis.



Joe Angeles

Voting prerequisites: guide to revising democracy

As articulate, and witty, and controversial as ever, syndicated columnist and TV talk-show host William F. Buckley gave an Assembly Series lecture last fall, titled "Reflections on Current Contentions." Speaking to a standing-room-only crowd inside Graham Chapel, Buckley predicated the lecture on his belief that Americans often fail to realistically view public issues.

Being unrealistic about our private lives is one thing, Buckley conceded: "There are many people in this room, myself included, who are married to the most beautiful, wonderful woman in the entire world. That surrealism is to be encouraged."

But in the public sector, he argued, our country could use a

hearty dose of realism. Buckley's list of areas in which the American public needs to re-examine its attitudes included candidates' motives for running for president, higher taxes for the rich, the new Soviet Union under Mikhail Gorbachev, and the American people's capacity for gratitude.

The most controversial of these was Buckley's objection to this country's universal franchise, which he based on the question, "Is there an antecedent obligation to the act of voting and, if so, who stands to win, who to lose, from voters who do not do their homework?"

Buckley's answer to this question, which he called his "dirty little secret," was that "ignorant voting or listless voting tends to

attenuate realism by asking the government to take care of everything, including leaky faucets . . .

I sometimes wish fewer people would vote because fewer votes would probably mean more thoughtful votes, votes based on realism."

He further suggested that we revive the concept of the voter's mandate that, going back to the ideas of British philosopher John Stuart Mill, requires citizens to vote for the "common weal," or the nation as a whole, as opposed to special interests, such as farmers, blacks, or poor people.

Buckley then proposed that our democratic institutions be somehow reformed so as to "discourage the vote of the rawly ignorant and apathetic." In his typically dry and humorous fashion, he gave an example. "We are told by Senator Bill Bradley, one of

Wm. F. Buckley holding forth in Graham Chapel

whose commissions recently looked into the matter of young illiteracy, that one-quarter of the college seniors in Dallas, Texas, do not know the name of the foreign country south of the border. If this is so, then that quarter of the college population in Texas ought not to be voting in a general election pending their introduction to the existence of the Republic of Mexico and, perhaps, gradual training as to its geographic location."

Putting sarcasm aside, Buckley summarized his discussion: "It is one thing to be born with the absolute right to the protection of the laws from infancy to the grave; it is something else to assume that mere birth in America entitles everyone to define the laws of governance." —*Kate Berger* □

Festival arts of the Caribbean: alive, vivid, and on tour

Since the 16th century, slaves from Africa, indentured servants from India, and colonists from Spain, Portugal, England, and France have joined the native inhabitants of the islands, cities, and towns of the Caribbean. Nowhere is the lively and unique culture forged from this mix more vividly expressed than in the region's large, colorful festivals, combining Catholic, Muslim, and Yoruba religious traditions, to name a few.

"Caribbean Festival Arts: Each and Every Bit of Difference" is a groundbreaking exhibit organized by the St. Louis Art Museum and now on a three-year tour around the U.S. and Canada. By featuring the costumes and ornaments of the festivals celebrated each year in the Caribbean, the show itself becomes a celebration of the region's rich and diverse cultures.

Speaking at a lecture co-sponsored by the University's Department of Art History and Archaeology and the Assembly Series, the exhibit's curator, John Nunley, explained how the show differs from other folk art displays: "Most people who visit a fine arts museum, or a natural history museum, are accustomed to seeing these arts from the so-called 'salvaged past,' and one goes away with the feeling that it's all gone."

But in this exhibit, modern-day Caribbean festival costumes are displayed on mannequins molded from live models. Every hair, toenail, and glistening eye has been painstakingly re-created on these mannequins; the effect is eerily lifelike. And the costumes are brilliant tributes to the ingenuity, resourcefulness, and creativity of the Caribbean people. Materials seem to include everything under the sun—mirrors (symbolizing access to the spiritual world), plastic flowers, Christmas tree ornaments, feathers, sea shells, bells, ribbons, safety pins, playing cards, post cards, and bits of costume jewelry. Several of the costumes are so large and elaborate that they are more like moving sculpture or architecture than clothing.

To make the show even more alive, Caribbean festival music and videos of actual parades, celebrations, and interviews with living participants are played and shown throughout the exhibit. Props such as wooden road barriers are designed to give the displays the feel of a crowded street parade. And during the show's stay in St. Louis, live performances of festival music, dance, and theater were held each weekend. The exhibit has been one of the most popular in the St. Louis Art Museum's recent history, drawing some 50,000



John Nunley

people during its first five weeks.

From St. Louis, the show will travel to the Smithsonian (from June 1989 through February 1990), the Brooklyn Museum in New York (September through November 1990), the Royal On-

tario Museum in Toronto (June through September 1991), and the Seattle Art Museum (November 1991 through January 1992).

—Kate Berger □

Renovation goes on-line — spurs computer-aided design

A renovation project recently completed at Givens Hall not only has expanded the architecture school's space, but eventually will lead to a dramatic increase in the use of computers in the school's curriculum, says Constantine E. Michaelides, dean of the School of Architecture.

"This renovation is the most

significant project—in terms of expenditure and magnitude—in upgrading the School of Architecture in recent years," Michaelides says.

The west end of the second floor of Givens Hall, which once housed two small studios and an office, is now home to the school's computer operations. The

\$360,000 renovation included the addition of a new mezzanine that houses an architectural design studio and two new faculty offices. The St. Louis firm of Ittner and Bowersox, which recently won an Honor Award for an addition to Louderman Hall in the chemistry complex, designed the renovation.

The School of Architecture dedicated the project in November with a week that included lectures by two distinguished architects: Eduard Sekler, professor of archi-

ture at Harvard University, and Alvaro Siza, professor of architecture at the University of Oporto, Portugal.

The dedication was highlighted by a display of computer images designed by students of the school that included, among several projects, a birds-eye view of downtown St. Louis, looking west from the Arch toward the Civil Courts building. □

Cuban graduate student recalls censorship, prison

It was a burning desire for freedom of expression that led Washington University doctoral candidate Rafael Saumell to write a book about the Cubans who fled to the United States in the Mariel boat lift of 1980, and it was this same desire for freedom that put him behind bars. Cuba's political police called his book "enemy propaganda" and Saumell, a former television scriptwriter and director, went to prison for five years.

While working in television, Saumell interviewed many poor Cubans about their plans to participate in the Mariel boat lift. Saumell, who is studying Hispanic American literature at the University, featured the interviews in a collection of short stories in 1981. He says the book detailed why, after the 1959 Cuban Revolution, these people wanted to leave their country.

The boat lift occurred when Cuba opened up its port at Mariel for free exit. Over the next five months, approximately 120,000 Cubans left their country for the United States. Many of these Cubans were violent criminals released from prison just for the exodus.

Saumell had submitted his book on the Mariel boat lift to two editors for possible publication. The editors denounced the book as "ideological diversionism" and alerted authorities.

At five a.m. on October 14, 1981, the police arrived at Saumell's home with a warrant to search his property for "enemy propaganda." They seized his book, his typewriter, and letters from friends living in capitalist countries.

The police then arrested Saumell and took him to a jail for political prisoners. They told his wife, Maria Baston, that her husband probably would return home later that day. Five years later, he arrived home.

Saumell recalls what he told his oldest son, Abdel, then six, before leaving home. "I told my son, in a very low voice, that I was going to jail. I told him it was because of my opinion, and that he could be proud of that. I told him, 'Your father is not a criminal.'"

At Saumell's trial, which lasted half an hour, the editors reiterated their charges of "enemy propaganda" against his book. Saumell was found guilty by a jury of five judges, and the book was suppressed by the Cuban government.

From 1981 to 1986, Saumell was incarcerated in a special ward of three different jails for political prisoners. Saumell says many political prisoners, labeled dissident by authorities, were taken to psychiatric hospitals for "treatment" and some received electroshock therapy. He says a special ward for political prisoners is housed in a Havana psychiatric hospital.

"Before my trial, the authorities wanted me to sign a declaration of confession saying I wrote my book against the Cuban Revolution," Saumell reports. "I refused to sign this declaration. They told me I could be shot, or sentenced to 30 years in prison, or never see my family again. That's when I participated in my first hunger strike, to protest this psychological torture. I did not eat anything for a week. They sent me to the hospital to build up my strength. After the hunger strike, the authorities backed down."

Saumell spent his first three and a half years in prison unable to see his children until authorities revoked a rule that visitors be older than 16. Even then, he only saw his children, Abdel and Michael, now 7, once a year for two hours.

During his incarceration, writing clandestinely helped him cope. "I wrote a book of poems about life in prison. How we were alone. My children. My wife. The suicides in prison. Writing and reading



Rafael Saumell

helped me survive."

He also became involved with the Cuban Committee for Human Rights, one of the loudest opponents to Cuban President Fidel Castro. The committee's research has drawn international attention to rights abuses in Cuba. The group is illegal but tolerated by Cuban authorities. Saumell, a former vice chairman of the committee, met the group's founders in jail.

Although he has left Cuba, Saumell remains active in his country's human rights movement. In 1987 he was interviewed secretly by the Cuban Committee for

Human Rights and the interview was later published in the United States. He frequently participates in conferences on Cuban culture and communicates with Freedom House of Human Rights, Americas Watch, and Amnesty International.

Reflecting on his transition from Cuba to America, Saumell says, "It is common knowledge that the United States is a place where you can feel absolutely free, but in the past months I have come to realize that the United States has many problems. I read about these problems every day in the newspaper. But what is important is that I can read about them — everybody can openly discuss their troubles.

"It reminds me of what Thomas Jefferson said when someone asked him whether he preferred a government without the press or a press without the government. He chose the latter. I agree. You can't run a country with the door closed. A democracy means you run a country with the door open so that the press can see and the people can see through the press."

—Carolyn Sanford □



Paper cut: Liu Xiaolian, a doctoral student in comparative literature, has been practicing the ancient Chinese art of paper-cutting since childhood. Only it's not an art, he says. "Real intellectuals would consider this folk art," he says as razor-sharp scissors float effortlessly through sheet after sheet of clean, flat paper.

Liu had the opportunity to display his skill last winter as part of the first St. Louis Chinese Cultural Festival, held at various sites around the city. Also part of the festival was the appearance in Edison Theatre of the Peking Opera, a spirited troupe that drew standing-room-only crowds.

Electrical stimulation builds muscles, the non-steroid way

A physical therapist at the Washington University School of Medicine has perfected a technique for high-intensity electrical stimulation of muscles that is safer and more effective than illegal drugs. The technique, called neuromuscular electrical stimulation, or NMES, has been used for several years to improve the recovery of knee-surgery patients. But Washington University physical therapist Anthony Delitto is the first U.S. researcher to obtain substantial results by using NMES on a highly trained athlete. The technique is used frequently in Soviet-bloc countries.

"NMES may revolutionize the way American athletes are trained," says Delitto. "It could make reliance on steroids completely obsolete, and lead to more Olympic gold for U.S. athletes."

Using a custom-built generator, Delitto periodically treated the thigh muscles of Olympic weightlifter Derrick Crass with complex electrical waves of high current during a four-month experiment. Crass, a 28-year-old St. Louis area policeman, received NMES along with his usual weight-training regime while preparing for the Seoul games. After just two weeks of NMES, Crass' lifts improved by as much as 45 pounds.

He maintained that gain when taken off NMES for a month, and when NMES was resumed, again dramatically improved in strength. By the end of the experiment, Crass could lift about 85 pounds more on certain exercises, a result Delitto attributes directly to NMES. In fact, Crass raised some eyebrows at the 1988 Olympic trials, where his performance had improved since 1984 beyond anyone's expectations.

"These are extremely preliminary results," Delitto cautions. "We've only tested one athlete so far, and obviously further studies are needed. But strength gains of

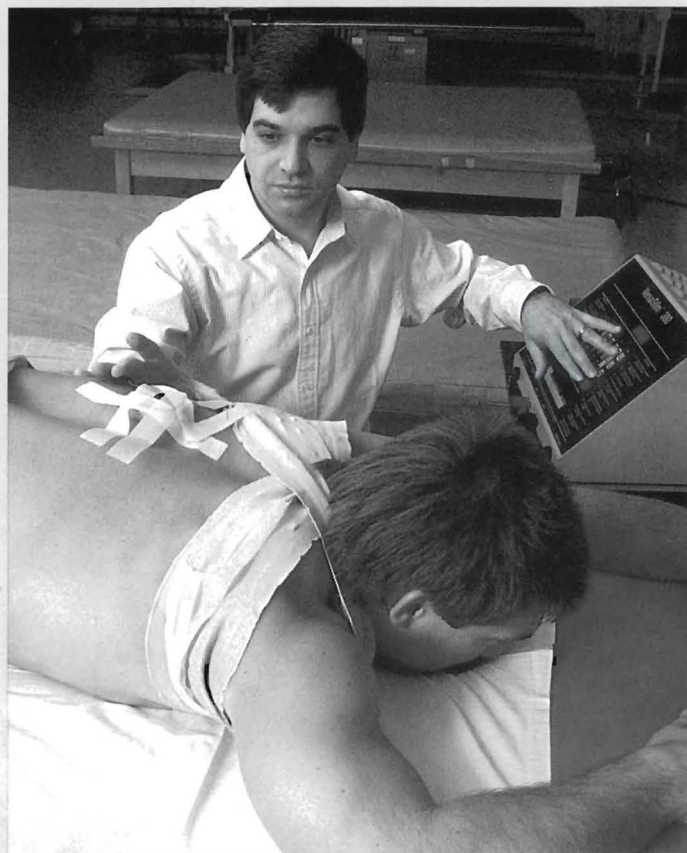
this magnitude are unquestionably impressive. You could take steroids for six months, maybe improve your lift by 20 pounds, and wreck your health in the process," adds Delitto, referring to the life-threatening side effects, including liver, heart, and kidney damage sometimes suffered by steroid takers. "But the minute you stop using steroids, you lose strength. With NMES, you seem to maintain gains as long as you keep exercising. How much strength you can gain, we don't know yet."

Delitto became interested in NMES in the 1970s, when he heard rumors that Russian athletes were using it. The rumors gained substance at the 1976 Olympics when Soviet track and field athletes, in full view of U.S. television cameras, rested between events with electrodes attached to their muscles. The following year Jakov Kots, the Soviet scientist who developed the NMES technique, spoke at a Canadian-Soviet sports medicine symposium. Kots claimed that he had used a special type of electrical current to make muscles become 30 to 40 percent stronger than they could through maximum voluntary exercise.

Intrigued, American researchers began using NMES to strengthen muscles. They were modestly successful, but unable to achieve the impressive results Kots had described.

"Kots wasn't about to give away any of his secrets," recalls Delitto. "We knew what he'd accomplished, but not how. We were shooting in the dark, using the wrong equipment, the wrong technique, and testing it on the wrong population." Discouraged, most researchers gave up. But Delitto persisted, gathering every available translation of Kots' papers to try to duplicate his methods. It took him eight years.

The solution? Build a machine powerful and complex enough to



Tom Heine

Anthony Delitto

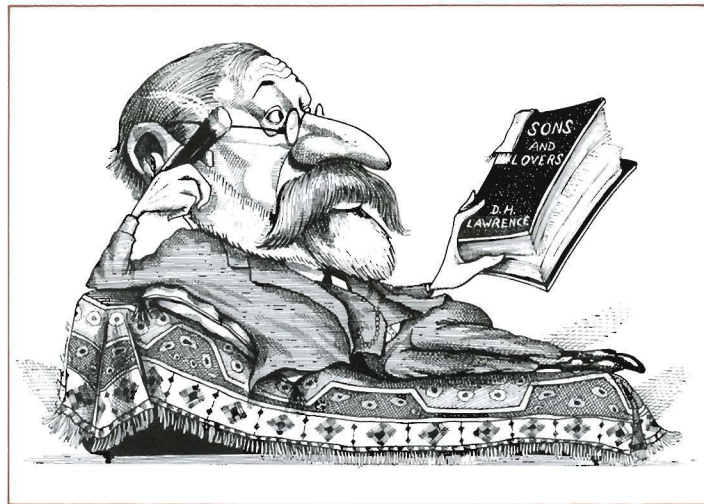
stimulate major strength increases without causing pain. The Versa-Stim 380, a prototype built for Delitto by Electro-Med Health Industries in Miami, was produced after several years of trial and error. Like its counterparts in the Soviet Union, the machine's components set it apart from other muscle stimulators used in this country—it produces an extremely high-frequency current that is interrupted about 50 times per second.

Delitto believes NMES not only makes muscles work harder, but also may stimulate the nerves that lead directly to the body's strength-producing fibers. Before-and-after muscle biopsies showed that the intense stimulation actually changed both the amount and type of Crass's muscle, apparently converting some endurance-producing fibers into the strength type. An increase in strength fibers is considered an

advantage in weightlifting or any other sport that requires short, explosive bursts of energy (sprinting and other track and field events, football and basketball, etc.) as opposed to sports that require sustained endurance (long-distance running, biking, swimming, etc.).

"What matters most is that we achieved a 'carry-over effect' into Crass' performance gains," stresses Delitto. "If your muscles register more force on an isokinetic dynamometer after stimulation, but you can't lift more weight, hit a baseball harder, or run faster, it means nothing. If NMES is widely adopted in the U.S., we could end up with an unbeatable Olympic team. Even more important, NMES may make steroids obsolete and result in cleaner, healthier sports for everyone."

—Tony DiMartino □



Dorothy Ahle

THE HUMANIST FREUD

Studies in the humanities
benefit from the influence
of psychoanalysis.

by Don Crinklaw

"You start in with a mystery," Gerald Izenberg, Washington University professor of history, is saying, "with something apparently inexplicable."

Izenberg draws upon his discipline as a historian for an example:

"Woodrow Wilson," he says. "In this case, the mystery is self-defeating behavior."

It was Wilson, one remembers, who proposed a League of Nations as a means of avoiding a repetition of World War I. He failed because he was unable to get the U.S. Senate to ratify the League.

"He could have got a League of Nations treaty, with a few minor concessions," Izenberg continues. "But he failed: So we're faced with self-defeating behavior. Which, from the normal, rational view of what motivates people—ambition, self-interest—makes no sense. A mystery."

A visitor, sitting across from Izenberg in his office in the history department on the second floor of Busch Hall, suggests, "Perhaps Wilson was incompetent."

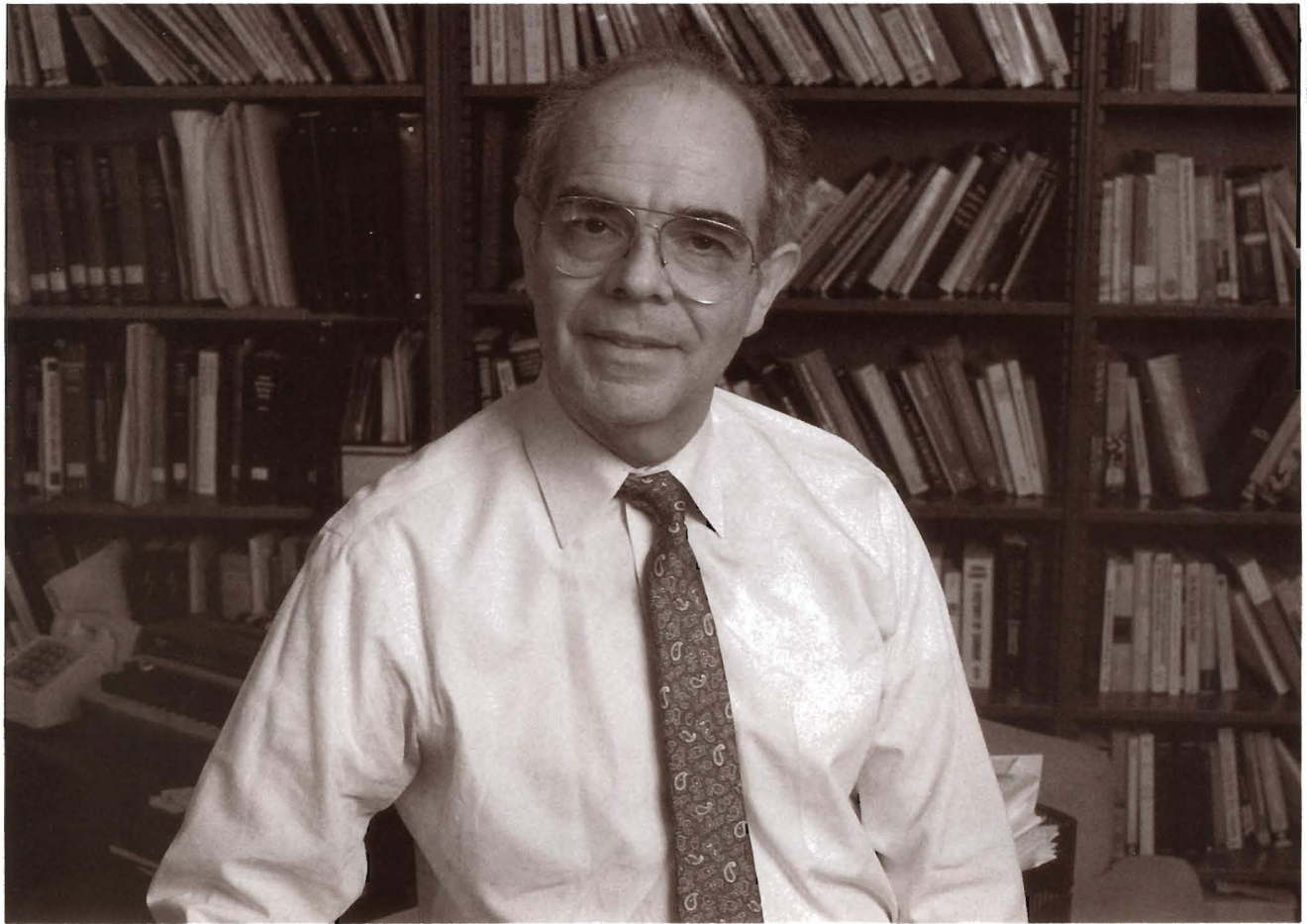
"You could argue incompetence," Izenberg answers quickly. "It's always a candidate for explanation. You try it out. No, Wilson wasn't incompetent. In fact, his patterns of governance when he was president of Princeton, when he was governor of New Jersey, when he was president of the United States, showed enormous legislative competence. Yet, in each of these roles he eventually got into fights with people and refused to compromise. A mystery. But it's been explained as the repetition of a kind of behavior he'd engaged in before and which satisfied certain ambivalent needs."

The explanation was offered in a 1956 Wilson biography by Alexander and Juliette George. Wilson, they claim, had his self-esteem challenged as a young man by his martinet of a father. The rest of his life was spent seeking power as a way of equalizing things, and when Wilson clashed with anyone who reminded him of his father, he had to triumph or feel all the old pain again. One way of putting it is this: there was no compromise—and no League of Nations—because Woodrow Wilson suffered from an unresolved childhood

conflict, from suppressed rage and suppressed guilt for the rage, and unconsciously reenacted moments with available father-figures.

This is, of course, the kind of thinking generally attributed to Sigmund Freud and that discipline he created toward the end of the last century, psychoanalysis. Designed at first as a therapy, psychoanalysis evolved into a theoretical system whose message might be most simply stated: Things are not exactly as they seem. Psychoanalytic theories propose that along with, or underneath, our conscious mind we possess an unconscious mind, a sort of mental energy of which we are unaware. Nothing that happens, therefore, consciously or unconsciously, is without cause. Another cornerstone of psychoanalytic theory is that, in everyday life, we often use defense mechanisms to hide from half-glimpsed, unpleasant truths about ourselves.

As a therapy, psychoanalysis experienced its greatest popularity in the U.S. in the 1950s and early 1960s; commitments of time and money and an insistence on quick cures have since dampened the enthusiasm of most po-



tential American clients. Its popularity as a treatment, involving four hours a week on the analyst's couch and lasting up to six years, flourishes now in Canada, in France, and in some South American countries. But, while Freud the healer may have been eclipsed, there is another Freud currently on the rise. This is the technician of, in Izenberg's words, "a systematic individual psychology that cuts below surface consciousness, revealing new facets of behavior previously taken for granted, illuminating previously unintelligible behavior, and explaining contradictions in act and thought."

This Freud is currently thriving in both popular and academic cultures. Journalist Gail Sheehy borrowed psychoanalytic insights to pry open the heads of the presidential contenders in a *Vanity Fair* magazine series last year. A *New York Times* book review notes, "Any biographer setting up shop these days is virtually required to draw upon the discoveries of Freud, to analyze his subject's unconscious life." Many of those self-help books in the wire racks at the

Gerald Izenberg, professor of history: "Achieving a balance between individuality and social needs is an ongoing process in the evolution of Western society . . . What I hope to reveal are not only the sources and implications of this struggle, but the lessons to be learned from its resolution, too."

drugstore draw their advice, however remotely, from Freudian theory.

And in university humanities departments, scholars have turned to Freud as a way of unlocking new meanings in works of the imagination. One of the best known of such scholarly proponents, Yale's Harold Bloom, in his much-discussed *Anxiety of Influence*, suggests, for instance, that the poet and his predecessors are like Oedipus and Laius meeting at the crossroads. In the act of creation, the son must defeat the father, not by slaying him but by absorbing him.

Psychoanalysis, which has sometimes been defined as the art of making meaningful connections with the past, is now increasingly becoming a way of connecting literary matters with human ones. As Naomi Lebowitz, A.M. '55, Ph.D.

'62, and Hortense and Tobias Lewin Distinguished Professor in the Humanities, observes: "By relaxing the boundaries between our conscious and unconscious narratives, Freud helped to release the private complexes of both literature and life into a commonly shared culture."

Of the several applications of Freud's groundbreaking theories in the humanities, perhaps the most pervasive is known as psychohistory, the discipline Gerald Izenberg makes use of. Adopting the strategies of psychoanalysis to better understand historical figures, and the underlying forces of history, is, actually, an idea nearly as old as Freud himself.

Indeed, the master attempted a very early psychohistorical study of Leonardo Da Vinci published in 1910. Enormously

speculative and filled with oversights that might have been corrected by more careful research, Freud's first attempt at understanding the whole creative life of an influential figure, explaining the sources and implications of the major phases in Leonardo's artistic development, nonetheless established that the methods developed in real-life situations could be extremely useful in comprehending the forces of significant personalities in the world as well as the suffering originating in the psyche.

In the modern (or post-modern) period, psychohistory came to the fore along with the cresting of popularity of psychoanalysis as the treatment of preference in the U.S. Pioneering work by Erik Erikson, along with the aforementioned biography of Woodrow Wilson,

"Any biographer setting up shop these days," notes a New York Times book review, "is virtually required to draw upon the discoveries of Freud."

helped establish the legitimacy of the use of psychohistorical techniques.

Erikson, a lay or non-medical psychoanalyst, worked in several areas to extend Freud's thinking. He is perhaps best known for emphasizing the developmental stages a person encounters throughout life, shifting the emphasis away from the Freudian emphasis on infancy. Along with this shift in focus, Erikson diverted attention to the problems of growth and development, not simply the cessation of painful or debilitating behavior.

Childhood and Society explains Erikson's theoretical discoveries, but biographies of Martin Luther and Mohandas Gandhi illuminate both the ways in which history and personality co-exist as well as Erikson's concern for understanding the challenges to psychic development that appear and change throughout life. Perhaps Erikson's most enduring legacy in popular culture is the "identity crisis," standard-issue equipment of the adolescent years.

It was during psychoanalysis' period of greatest popularity that Gerald Izenberg came of age professionally. As an undergraduate at the University of Toronto in the 1950s and later as a graduate student at Harvard in the early 1960s, he discovered a strong interest in what he describes as "the foundations of

motivation, what makes people tick." He toyed briefly with the idea of pursuing psychiatry but acknowledged a lack of interest in things medical. His focus became history, more specifically "intellectual history, and the fundamental guiding assumptions and ideals that inform a society or a historical epoch."

And his studies led him to seek the tutelage of Harvard historian H. Stuart Hughes, the author of a significant work in intellectual history that valued the growing psychohistory movement. In a work published in 1958 that had significant influence on Izenberg, *Consciousness and Society*, Hughes not only established the topic of subjective consciousness in social theory as a valid historical subject, but brought Sigmund Freud squarely into the dialogue.

Izenberg was initially wrestling with another significant intellectual force of the 1950s, existentialism, when he encountered the psychoanalytic approach. "I wasn't then so much interested in psychoanalysis and its applications to the study of history in and of itself," Izenberg explains, "but in its basic theory of human needs and drives in contrast with existentialism. As my work continued I realized that post-Freudian psychoanalysis also included existential concerns about freedom and selfhood. Contemporary psychoanalysis continues to be an abiding interest but is only one approach I rely on in trying to understand the events of history and the forces that influence those events."

Personally, too, the discipline originating with Freud held satisfaction for the young historian, who eventually took formal training as an analyst and continues to practice his understanding both in the writing of history and in helping others in therapy.

In his previous work, which grew out of his graduate-school studies, *The Existentialist Critique of Freud: The Crisis of Autonomy*, Izenberg was already beginning to wrestle with the notion that would dominate his later work: what constitutes the idea of the uniqueness and sovereignty of the individual. His current topic, Romantic thinkers and

poets and their contributions to our ideas of individuality, grows out of contemporary controversy to some extent.

Much intellectual effort, especially since the second World War, has been spent discussing the individual's role in society. Lately, of course, we have had attacks on the culture of narcissism and the so-called "Me Decade." Much of this debate can be traced to the origins of the idea of the individual. As Izenberg puts it, "Often, contemporary concerns can lead you to historical issues."

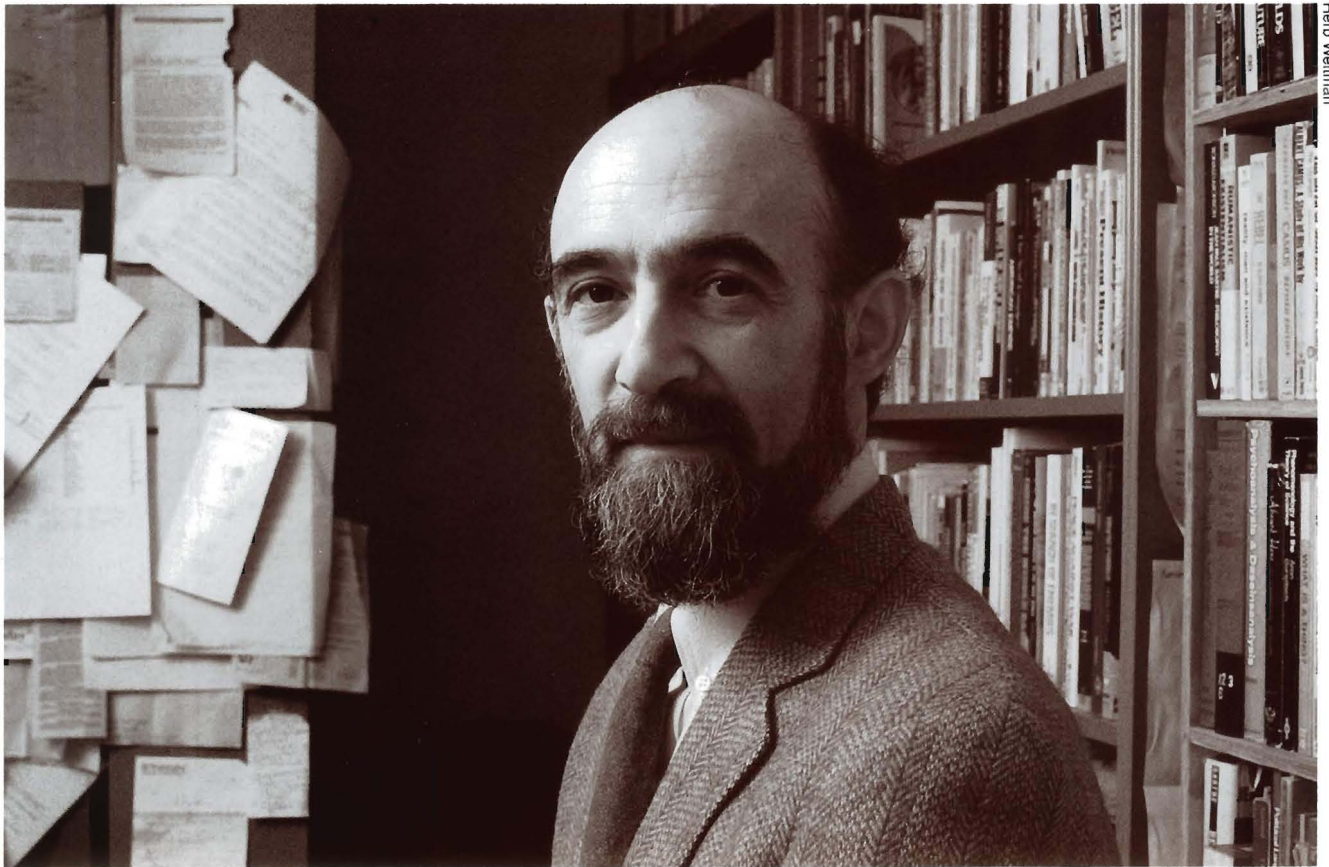
In Izenberg's view, the Romantic writers were forced to wrestle with some of the inherent contradictions of the recently born idea that, in Western society at least, the individual should be recognized as a source of significant authority. Growing out of the Enlightenment, this idea found its fruition in the French Revolution, with its insistence on absolute liberty.

Following this development, the Romantic writers Izenberg has been studying evolved two very extreme, and opposed, tendencies of thought. One celebrated the power of the individual beyond what had been previously imagined, as a source of authority that transcended the traditions of history, society, art, or politics. At the same time, many of these same figures became, in the course of their lives, avidly, aggressively conservative in their political views.

It is to this apparent contradiction, this mystery if you will, that Izenberg, propelled by an interest in the basic ingredients of individuality and having at his disposal the insights supplied by Freud's theories and their confirmation in the consulting room, is drawn. How does one explain these revolutionary artists who became terrified of revolutionary change politically, and what can it tell us about our own struggle with the definition of individuality in the larger cultural arena?

Izenberg is very careful to distinguish this sort of application of psychoanalytic understanding from other uses of psychohistory. For him, it is important to study a topic in which much documented evidence exists, as a kind of confirmation similar to the feedback an analyst might get from a patient in the therapeutic situation. And it is crucial, he says, to work with the past, with stories that are complete.

The other kind of psychohistory, concerned with living political leaders and often straying into the contemporary analysis of ongoing careers, does not interest him.



Herb Weisman

There are, according to Izenberg, several ways a psychohistorian may go about his preparations. "Some think it's enough to be well-read in psychoanalytic theory," he says, "but I think that could be dangerous—it tends to create scholars who have no personal sense of the meanings of psychoanalytic ideas." Some historians join forces with an analyst and produce joint works. Then there is Izenberg's way. In 1976, he completed a Special Candidacy in Psychoanalysis at the Boston Psychoanalytic Institute. "It's a means of training people from the social sciences and humanities to understand psychoanalytic ideas," he says. "It involves course work and a personal analysis."

Izenberg came to Washington University in 1976, taught a course in psychoanalysis and the humanities at the St. Louis Psychoanalytic Institute, then went through a Special Candidacy—course work plus a personal analysis—all over again. This time, though, he took clinical training, which means that he can counsel patients in therapy.

"It's a difficult and expensive way to go about becoming a psychohistorian," Izenberg says. "That's why most people

William Caspary, professor of political science "Political philosophy is concerned with the Good Society . . . Psychoanalysis is in some ways about what's good for human beings, and one can't construct a theory of the Good Society without that."

don't do it. But it connects with my life. Not everybody feels the need for that kind of relationship with their work. I do."

"In my work now, I'm talking about the first generation of Romantics," he says. "Wordsworth, Chateaubriand, Schlegel, and Schleiermacher. Men who came of age during the French Revolution. They came to their rebellion out of what might be called Oedipal situations," he says. "The French Revolution gave them the opportunity to expand a rebellion against fathers and social backgrounds to include metaphysical claims about the nature of authority itself, and to rebel not only against fathers but against *all* authority."

"As their claims for the human being mounted in importance they became imperial claims," he says. "Claims to be masters of all being, beyond all previous authorities: nature, history, fathers, kings, gods." Then the mystery; "a retreat from radical claims about the self to an

odd position: that the self ought to expand infinitely to incorporate the universe and, at the same time, the self ought to surrender itself to the universe. My argument is that this contradiction arose because the claims the Romantics made for the self came to scare them."

"In the political world, the excesses of the Reign of Terror frightened them, and they feared that in their private lives they were committing parallel excesses," Izenberg explains. "When they applied their notions of the self to their lives, they saw what it meant in terms of relationships with other people. It meant aggrandizing themselves at others' expense. It meant using other people. It meant not understanding how oneself as sole authority could possibly come to terms with other people, who were *also* sole authorities."

So the paradox emerged: "the assertiveness of the self, which reaches the point of the infinite, then the surrender of the self to the infinite. This is the

duality at the heart of Romanticism: the uniqueness, the specialness of the individual is somehow expressed and preserved by being part of something bigger than the individual. It's contradictory, but it worked. It worked psychologically.

"Reconciling individuality with the demands of ethics and society is one way of putting what the whole problem may be about," Izenberg says. "They started out as radical revolutionaries, but the larger the claim they made for the individual, the greater their political retreat. Using a psychoanalytic approach makes it possible to see how the individual and his society become mirrors, mirrors of each other but also mirrors of the struggle this emerging concept encounters when it meets other forces,

don't answer adequately. Such as: Germany in the 1930s, raging and humiliated, followed a man who promised further disaster. Why? Or: Sociologists have claimed that man is wholly molded by society around him, so those who most conform are most at peace. Still, the conformist often suffers more than the dissenter. Why?

Caspary continues with the conventional explanation for political symbol-seeking: "That most people on most issues find that the issue is very complicated, the resolution of the issue is deferred in time, and the arena of discussion is far away, in Washington. They feel helpless to understand. Therefore, rather than seeking concrete material benefits, they respond to politicians who provide reassuring symbols."

Biographies of Martin Luther and Mohandas Gandhi by psychologist Erik Erikson helped establish the legitimacy of psychobistorical techniques.

like society and politics. What I hope to reveal are not only the sources and implications of this struggle, but the lessons to be learned from its resolution, too. Achieving a balance between individuality and social needs is an ongoing process in the evolution of Western society—it continues to evolve—and the Romantic poets were not only the first to clearly identify this struggle, but also the first to articulate the compromise of balancing the unrestricted needs of the infinite individual with the restraints demanded by society, in return for which the individual experiences a necessary sense of belonging."

William Caspary, Washington University professor of political science, is explicating for his visitor a theory that regards most of the goings-on in politics as show, as symbols. Elections are rituals. Speeches are symbolic. Voters don't vote for the candidate who speaks of concrete benefits, but for the one who best manipulates the best symbols. Then Caspary asks, rhetorically, the question psychoanalysts ask, the question that has brought Freud and his strange discipline into any area that involves human beings: Why?

The question seems to come up often, whenever the traditional answers

Caspary takes the argument to be correct, but, he says, "It almost forces you to go further and ask: Why? Why are people so constituted that they prefer a diet of symbols and symbolic gratifications to actual material benefits? The most obvious answer comes from psychoanalysis."

He is referring to psychoanalytic studies of anxiety, he says, that regard fantasy as a means of resolving anxiety and symbols as a major component of fantasy. "In President Reagan's talk of the resurgence of American power, he offered this symbolic gratification. American power didn't increase, but the language, the military gestures, and the increased defense budget seemed to provide an immense amount of assurance.

"At the psychoanalytic level," Caspary explains, "we observe people's emotional insecurities and the extent to which American power is experienced vicariously, as an augmentation of personal power. People who feel their lives are out of control have fantasies of control, and often these fantasies are supplied by our leaders. If I feel weak and helpless in, say, the job market, I can feel strong and powerful and reassured when I hear that I am a citizen of the strongest nation on earth."

Caspary's knowledge of psychoanalysis comes from reading, from auditing courses at the Psychoanalytic Institute, and from a personal analysis. He places special emphasis on post-Freudian psychoanalysis, which he describes as "an ongoing, cumulative, error-correcting inquiry—not reducible to the pioneering work of only one person." He isn't especially interested in analyzing dead presidents, or even live ones. As he puts it, "I'm more interested in followership than in leadership." He elaborates, "I'm interested in participatory democracy, in the empowerment of citizens. And I'm interested in the way that our own limitations of personality development 'disempower' us. Participatory democracy means the decentralization of power, so people can settle in face-to-face meetings many of the issues that affect their daily lives," he says, and notes that another "Why?" emerges here: "Why is this so difficult to carry through?"

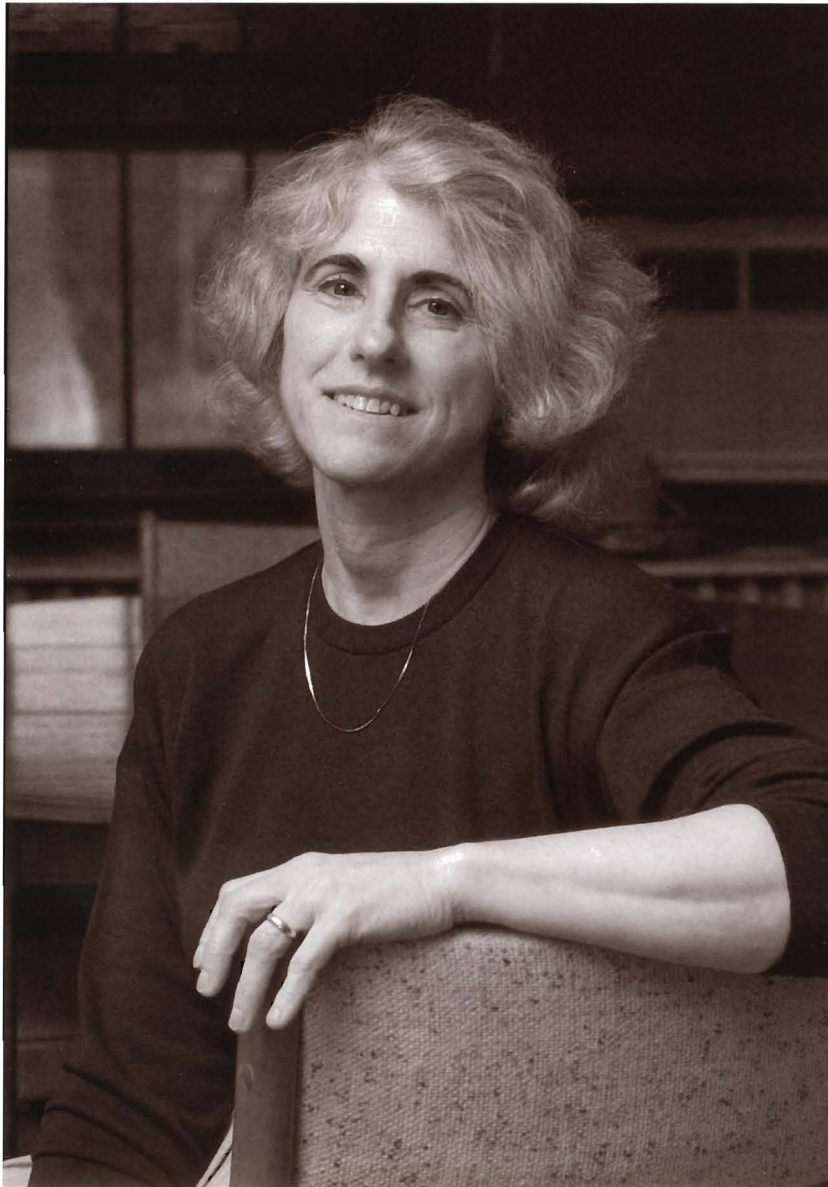
Psychoanalysis, particularly post-Freudian psychoanalysis, offers answers in its concern with how the "self" is created during the first few years of life. When nurturing goes wrong during these years a "false self" emerges that has its own agenda. "So when you get a group of people together in a participatory democracy situation," Caspary says, "the hidden agenda dominates: to intimidate everybody or to look better than everybody else, to relieve a sense of emptiness by getting praise and reassurance from the others. The job to be done is easily subverted by irrational emotional needs, and items at hand turn out to be symbols that participate in the fantasy."

How, he is asked, can psychoanalysis help in clearing away such underbrush?

"In the long term, one would want to raise children differently," Caspary answers, "in order to make them stronger people who are capable of engaging in decision-making in groups. In the short term, a facilitator who is informed and sensitive on psychoanalytic matters can do a great deal. That includes not only being aware of how the members are functioning, but of his own feelings."

If this sounds a bit utopian, well, there's nothing wrong with that.

"Political philosophy is concerned with questions about the Good Society—it's a way of talking about ideals as values toward which one strives. Psychoanalysis is in some ways about what's good for human beings, and one can't construct a theory of the Good Society without that."



Herb Weisman

Naomi Lebowitz, A.M. '55, Ph.D. '62, professor of English and Hortense and Tobias Lewin Distinguished Professor in the Humanities: "Psychoanalysis, when it was well applied, helped to raise ambiguities and ambivalences in the text. Instead of destroying the depth and beauty, it helped us discover depth and complexity."

"In the 1950s," says Professor of English Naomi Lebowitz, "literature feared that if we psychoanalyzed the text, the field would be taken over by Freud's language." Perhaps that's why there was so much resistance in English departments to enlisting psychology as an aid in understanding the great creations. Lebowitz adds, "We said that, obviously; Joyce's *Steven Dedalus* is strug-

gling with an Oedipus complex, and his relation to his mother is filled with guilt because essentially he wants to replace the father. That kind of thing was seen as a threat. But it developed that psychoanalysis, when it was well applied, helped to raise ambiguities and ambivalences in the text. And instead of destroying the beauty and depth of the text, it helped us appreciate and discover depth and complexity:

"In fact," Lebowitz continues, "a text can't be *solved* by rational means, like a logical problem. The psychoanalytic process helped *keep* ambiguity and ambivalence, the same qualities we experience in life, in literature. These weren't belittled, but thought of as rich, and interesting. Psychoanalysis was the agent of that relationship."

It follows then, as Lebowitz says, that "interpretation in psychoanalysis and interpretation in literature are very closely related." If one thinks of psychoanalysis as the study of human behavior from the point of view of inner conflict, its special aptness for analyzing narrative—and maybe even the narrative's author—can take some intriguing turns.

"Those who took Freud seriously as a healer and someone to contend with, outside literature, as well as someone to be used in literary criticism, would take the ideal claims of the author seriously, too, before subjecting them to suspicion," Lebowitz says. "D.H. Lawrence suspects that the discrepancies between 'the teller' and 'the tale' not only *reduce* the tensions between life and literature, but free them from *too* conscious an interpretation."

This approach isn't a game of second-guessing, "seeing through" an author; rather it's realizing that "the distinction between the unconscious and conscious intent is held together by a *person*," Lebowitz says. "There is a good, rich tension between the ideal claim and the betrayal of that claim in the text. And language and literature *do* slop over into life. Freud *sought* the toleration of ambiguity and ambivalence; to him that was the great maturity, which enriched our reading of both life and literature. I don't think you can separate the reading of Freud as a text from the purpose of psychoanalysis," Lebowitz says. "That is: to decrease suffering in the world. As soon as you make his method only metaphor, you can skim over all the suffering in the world. Without therapeutic insight, desire and pain become a figurative dance instead of something real you pay for." □

Don Crinklaw *is a freelance writer based in St. Louis who frequently contributes to Washington University Magazine.*

Dorothy Ahle *is a caricaturist based in Boston whose work has appeared in Barron's, the Boston Globe, the Los Angeles Times, and People magazine.*

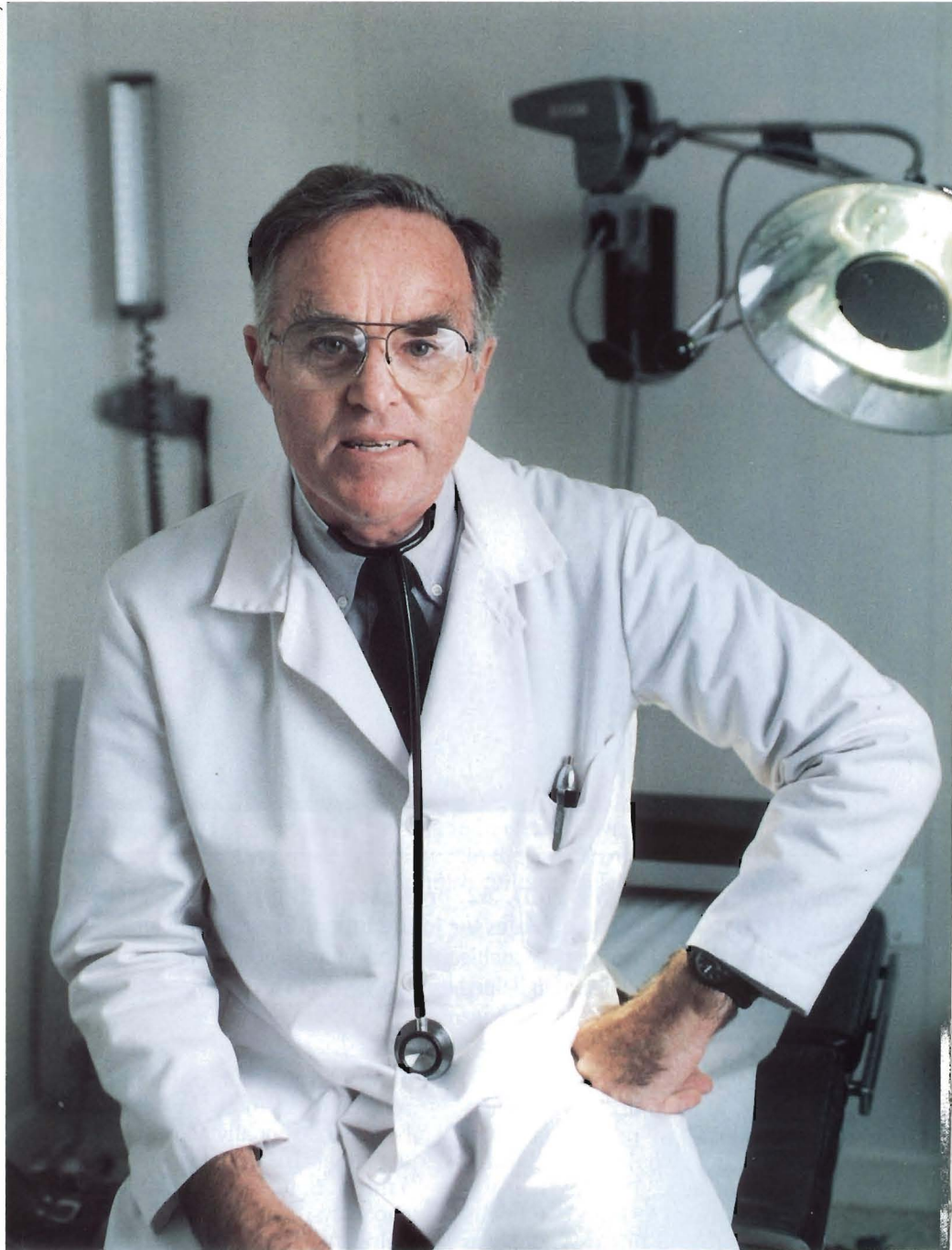
The Foulest and Nastiest Creatures That Be

by Berton Roueché

I saw my first tick in the back yard of a rented house in East Hampton, on the oceanic East End of Long Island, one afternoon in July of 1949. It was on my wife's back. We had just come home from the beach, and the tick was conspicuously poised on the bare skin between the top and the bottom of her two-piece bathing suit. We had only recently moved east from Missouri, where the insect pest of summer is not the tick but the chigger. Still, I knew what a tick looked like, and I knew—or had heard—that there was an approved way of removing one from the flesh of its victim: apply the lighted end of a cigarette. I had a cigarette in my hand (as I often did in those innocent days), and I carefully applied the lighted end to my wife's nicely tanned back. She gave a scream. The tick did not, as the approved method promised, drop to the ground. It merely crawled a millimeter or two to the right. Instinct guided me next. I reached out and plucked it off with my thumb and forefinger. Before I killed it, before I crushed it with a pebble, I took a closer look. It was almost the size of a ladybug, only flat, with a shiny brown carapace and a yellowish capelike collar. It had eight spindly legs and a tiny snout of a head. It was ugly, but it looked—though I knew it wasn't—harmless. That, as I say, was my first tick, but hardly my last. I have since seen hundreds, perhaps thousands, in the wild and—crawling, sitting, or embedded—on me, on my wife, on my son, and on several generations of dogs.

The tick is not, to be puristic, an insect. It belongs, in the nomenclature of science, to the phylum Arthropoda and is a member (along with spiders, scorpions, mites, and the horseshoe crab) of the class Arachnida. Ticks are found in incomprehensible numbers throughout the world, and man has probably been unpleasantly aware of them since his beginnings. Human detestation of the tick easily sur-

J. Michael Dombrowski © 1988 Newsday



Epicenter: Lyme disease, spread by the common deer tick *Ixodes dammini*, first appeared on the Eastern seaboard but is now being reported throughout the country.

A pediatrician in general practice, Edgar Grunwaldt, M.D. '51, has been a central source of clinical information to medical researchers. In some parts of Grunwaldt's thickly wooded Shelter Island, the incidence of infested ticks approaches 90 percent.

passes that aroused by snakes and spiders. "Ill-favored ticks," Pliny the Elder (23-79 A.D.) cried out in his *Natural History*. "The foulest and nastiest creatures that be." I know of no better confirmation of the theory of evolution than the tick. That is to say, it is hard to think of the tick, which lives on the blood of other creatures but is itself food for none, as a deliberate creation, as one of the creatures in Genesis "that creepeth upon the earth," and to believe that it had a Creator who "saw that it was good." My first tick—and, with one considerable exception, all of the many ticks I have seen—was of the species *Dermacentor variabilis*, the dog tick. It is, like all ticks, parasitic, but is itself often host to the bacterium *Rickettsia rickettsii*, the agent of Rocky Mountain spotted fever. Rocky Mountain spotted fever takes its name from the region (the mountains of Idaho and Montana) in which, in the 1890s, it was first identified, but it is no longer seen as merely a provincial menace. Its geography is now known to embrace most of the Western Hemisphere. It has, however, its favored haunts. These include, along with the mountains West, much of the states of Georgia, North Carolina, Virginia, and Maryland, coastal Connecticut and Massachusetts, and eastern Long Island.

Rocky Mountain spotted fever is a dangerous disease. The average incubation period—the interval between the bite and leisurely blood meal of an infected tick and the appearance of illness—is about seven days. The onset is often abrupt, with high fever, chills, headache, prostration, and other more or less equivocal manifestations. The characteristic spotted rash seldom ap-

pears before about the fourth day. Immediate diagnosis is consequently difficult unless the disease is suspected—unless the diagnostician is morbidly alert to its possible presence or unless the victim can inform him of a recent tick bite. This last is only sometimes feasible. Ticks seem to seek out secluded feeding sites—the armpit, the scalp, the navel. An effective treatment for Rocky Mountain spotted fever, involving a tetracycline antibiotic, has been available since the middle 1950s. Untreated or improperly treated cases have a high mortality—around 20 percent. I was aware of Rocky Mountain spotted fever at the time of my introduction to *D. variabilis*, and I made it my business to learn more. I learned from local lore that the vector tick is ubiquitous in range, finding a comfortable habitat in fields and pastures, in brush and woods, in the grassy dunes that border the most pleasant beaches, and even in the best-kept lawns, and that its preferred hosts are rabbits, mice, squirrels, and dogs. Man is merely *faute de mieux*. I learned from a local doctor that there was no effective treatment for Rocky Mountain spotted fever (the tetracyclines were yet to come), but that there was a vaccine. My wife and son and I presented ourselves at the local clinic and were immunized. I have a vivid recollection of that vaccination: a moment after the injection, my arm received what felt like a blow from a baseball bat, and an ache that persisted for some hours. But it seemed well worth that little discomfort. I lived the next thirty-odd years—sunning myself on beachy dunes, strolling in brushy pastures, cutting firewood—in the carefree knowledge that my wife and son and I were immune to Rocky Mountain fever, and I removed any ticks I attracted as nothing more than nuisances. It was only recently that I learned that all *R. rickettsii* vaccines had long since been found to be unreliable and had been withdrawn from the market.

I understand now, having made some inquiries, how I happened to escape contracting Rocky Mountain spotted fever in spite of my unconcerned wanderings for so many years in an area in

even when it settles down and thrusts its proboscis into the skin the migration of the *R. rickettsii* bacterium to its new host seems to take time—perhaps several hours. The moment for concern is at hand when the tick is not only attached but visibly enlarged, engorged. A well-fed dog tick is only too repellent a warning. I have never found an engorged tick on myself or on my wife or son, but I have removed any number from our dogs. They have varied in size, but the most gluttonous feeders have been about as big as a grape, and of a sickly leaden color.

I was, as it turned out, far luckier than I knew in those years of imagined immunity. I may have been to some extent protected against Rocky Mountain spotted fever, at least in the earlier years, but its carrier is not the only toxic tick that finds a congenial home on eastern Long Island, and Rocky Mountain spotted fever is not the only tick-borne disease that is endemic in my neighborhood. This other tick is called *Ixodes dammini*, and it is host to the agents of two newly noted but otherwise entirely distinct diseases. A malaria-like disease called babesiosis is one of these. Babesiosis takes its name from that of the causative organism, a protozoan named *Babesia microti*, which, in turn, takes its name from that of its discoverer, the Rumanian bacteriologist Victor Babes. It is, in general, a relatively mild disease, and its victims usually recover without chemotherapeutic assistance, but it has a grave potential. Victims whose spleens have been removed or damaged, the elderly, and cirrhotic alcoholics are always at risk, and sometimes die. *B. microti* turns up as a tenant of *I. dammini* a little more often than *R. rickettsii* does of *D. variabilis*.

The other disease that *I. dammini* may harbor is Lyme disease. Lyme disease is rarely fatal, but unless it is promptly diagnosed and appropriately treated its victims may recover from its acute assault only to give way later to a variety of debilitating chronic ills. I have encountered *I. dammini* only once, a couple of years ago, and, like my first tick, it was attracted to my wife. She found it settled on, but fortunately not attached to, her thigh after a walk in a weedy pasture. She lifted it off and showed it to me in the palm of her hand. It was a tiny thing. *I. dammini* is commonly described as about the size and shape and color of a poppy seed. That, to me, is an exaggeration. My—or my wife's—tick was about the size and

Edgar Grunwaldt's practice at the end of Long Island puts him right in the heart of Lyme-disease country.

which the disease is historically endemic. It was, of course, in large part luck. But the odds were very much in my favor. It is estimated that even in heavily infested areas only about five per cent of the vector ticks are carriers, and it is a comforting fact that the dog tick (and its carrier cousins) is an incisive feeder. It usually crawls around the skin of a human host for some little time before it chooses a place to eat. During those preliminary perambulations, it presents no kind of threat, and

which the disease is historically endemic. It was, of course, in large part luck. But the odds were very much in my favor. It is estimated that even in heavily infested areas only about five per cent of the vector ticks are carriers, and it is a comforting fact that the dog tick (and its carrier cousins) is an incisive feeder. It usually crawls around the skin of a human host for some little time before it chooses a place to eat. During those preliminary perambulations, it presents no kind of threat, and

shape and color of the period that ends this sentence. My wife supposed at first that it was a little scab or freckle. But it moved, and under a magnifying glass its eight arachnid legs were just visible. We twisted it up in a Kleenex and, on a hunch, took it the next day to a dermatologist in the neighboring village of Southampton—Bernard W. Berger, whom we knew to be an authority on Lyme disease and an active investigator into its nature. Dr. Berger gave it a glance, and identified it not only as *I. dammini* but also as an *I. dammini* nymph. It is primarily in the nymph, or middle, phase of its life cycle that *I. dammini* transmits Lyme disease to humans. It was well, as I say, that our tick had not yet attached itself: at least sixty percent of *I. dammini* on eastern Long Island, Dr. Berger told us, are carriers of Lyme disease. That was bad enough. But I learned only the other day that ticks infested with the Lyme-disease organism can also be infested with the organism of babesiosis.

The coincidence of the organisms of Lyme disease and babesiosis in a single obliging tick was first reported in 1983, in the *New England Journal of Medicine*, by a pediatrician named Edgar Grunwaldt, in general practice on Shelter Island. Shelter Island is a largely wooded island, some 30 square miles in area, that rises between the north and south forks of eastern Long Island. Dr. Grunwaldt was ideally situated to observe the comings and goings and the morbid proclivities of *I. dammini*. Although Lyme disease first caught the eye of science in 1976, in the little Connecticut community from which it takes its name, it has, like Rocky Mountain spotted fever, long since outgrown its regional origins. Lyme disease has now been reported in much of the continental United States, with deep and probably ineradicable roots along the upper Eastern Seaboard, in Minnesota and Wisconsin, and in California, Oregon, Utah, and Nevada. There is, however, no place yet known where its roots go deeper than in Dr. Grunwaldt's Shelter Island. In parts of the island, especially in some of its most idyllically pastoral areas, the incidence of infested *I. dammini* ticks approaches 90 percent.

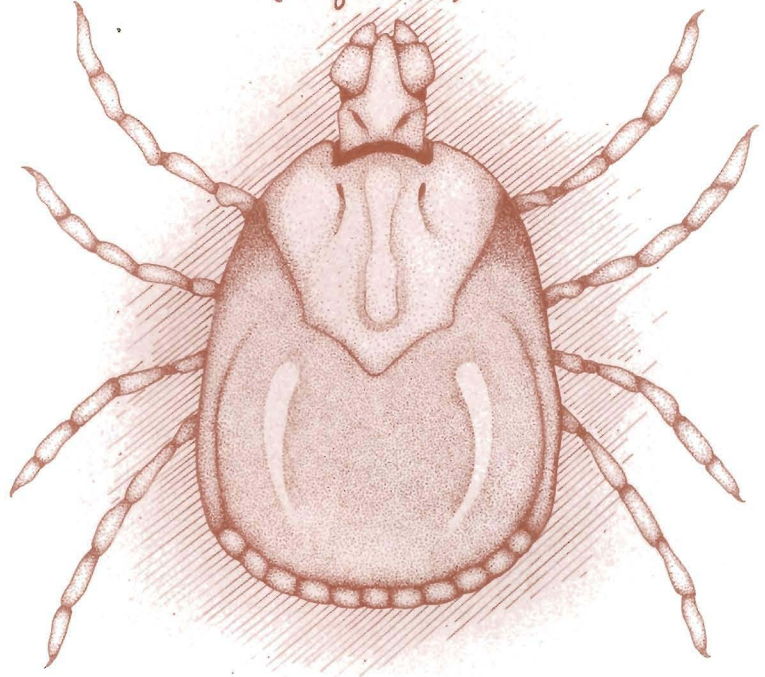
“Shelter Island has been a laboratory for much of the investigation into Lyme disease,” Dr. Grunwaldt told me in a talk we had at his home one Saturday afternoon—that being a time when he doesn't see patients. “We have the tick in abundance,

and we have the disease. We also have babesiosis. As a matter of fact, it was babesiosis that brought me into the Lyme-disease investigation. A paper I wrote that was published back in 1977 in the *New York State Journal of Medicine* described three cases of babesiosis diagnosed here—the first cases reported in the state—and it came to the attention of Jorge L. Benach, of the state Department of Health and the department of pathology at Stony Brook. He was looking for a good source of ticks for research, and I told him he couldn't do better than here. It was through my interest in Lyme disease that I came to know Allen Steere, of the Yale Medical School. It was Steere and his associates at Yale who pioneered in Lyme disease and published the first report on it. And gave the disease its name. That was in 1976. You may remember the story. It's interesting. A woman in the Lyme area was the real pioneer. Back in the summer of 1972, her child developed a painful arthritis in the knee, and in talk-

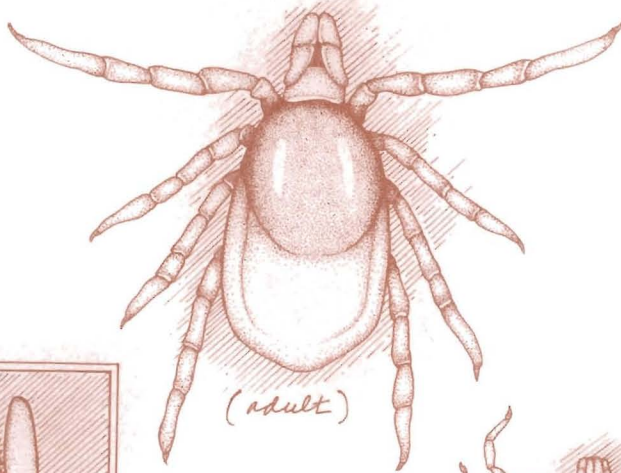
ing with her friends and neighbors she discovered that a number of other children around there were suffering from the same thing. She apparently knew enough about arthritis to realize that a cluster of cases of a disease like that was unusual. She got in touch with the state health authorities, and Steere heard about the outbreak from them. Arthritis, of course, is only one of the forms that Lyme disease can take, but it was what Steere and his associates first observed. And at first they called it Lyme arthritis. I understand that the old-timers over in East Hampton had a disease they called Montauk knee. Lyme disease has probably been around for a long time. So has babesiosis. There was a disease along the New England coast that was known for many years as Nantucket fever.

“It was chance that brought me here to Shelter Island. I was born and raised in Argentina. I studied medicine in St. Louis, at the Washington University School of Medicine, and trained and practiced in California for about 10

Dermacentor variabilis
(Dog tick)



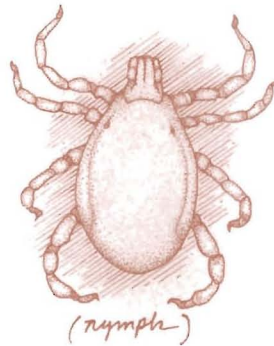
Ixodes dammini
(Deer tick)



(adult)



(Hypostome of nymph)



(nymph)

years. I married a Long Islander, and we decided to settle in the East. It so happened that Shelter Island needed a doctor. I started practice here in the summer of 1975, and one of the first diseases I saw was what I'm now sure was Lyme disease. I had several patients with a specific rash called erythema chronicum migrans, which has been known and described, particularly in Europe, for a long time. Erythema chronicum migrans is a distinctive marker of Lyme disease. The rash begins with a lesion at the site of the tick bite and slowly spreads outward, in a circular pattern with a red rim. It can be quite large—fifteen or more inches in diameter. I saw the same rash again in the summer of 1976, and I took the trouble to search the literature. Most of the reports I found were Scandinavian, some of them going back to the 1920s. I found a 1962 paper by three researchers at the University of Helsinki that discussed a possible relationship between *Ixodes* ticks and the erythema chronicum mi-

grans that was then associated with meningitis. But you can't count on the rash as an infallible clue. For one thing, as we know now, it isn't always present. For another, it only appears several days after the bite and the initial symptoms. In any event, I started treating my cases with antibiotics, and that seemed to do some good. I followed Steere's work as it was published, and that's when I realized that what I was seeing was his Lyme disease. I remember a telephone conversation I had with Steere in 1978. He had decided that in certain cases Lyme disease was self-limiting—that it cured itself and after a while just vanished. That's true, of course, in a way. It seems to go away, but it really just goes underground, and then emerges in a much more serious way. These later complications usually take one of three forms. One, of course, is arthritis of the large joints—most often the knee. Another manifestation is neurological. It can resemble a form of meningitis or the facial paralysis called Bell's palsy. Those early

Scandinavian investigators may very well have been seeing our Lyme disease. The third form affects the heart. When Steere assured me that the disease was self-limiting, I stopped using antibiotics. But then he dug deeper and changed his mind. We now know that prompt treatment with a penicillin can generally prevent the later manifestations.

"I was fortunate enough to have a role in the investigation of the cause of Lyme disease. Benach was involved, and Jeffrey Davis, of the Wisconsin Department of Health and Social Services. The laboratory work—the most significant work—was done at the Rocky Mountain Laboratories, in Hamilton, Montana, by a team headed by Willy Burgdorfer, of the National Institute of Allergy and Infectious Diseases. They collected their ticks here on Shelter Island and isolated a spirochetal bacterium that they were later able to demonstrate was the causative organism. It was named for Willy Burgdorfer—*Borrelia burgdorferi*. As you know, the cause of syphilis also is a spirochete. Not the same one, of course. And untreated syphilis, like Lyme disease, can later reappear, with very serious consequences.

"The laboratory findings were published in *Science* and in the *Journal of Clinical Investigation* in 1982 and 1983. And that's about where we stand right now. We have the disease as an entity; we have the causative organism, and we have the vector—the tick. And we have an effective treatment. There are still some loose ends. The most important need is for an effective means of control or prevention. There is a search going on for an immunizing vaccine, but so far without much success. There is a growing demand in the endemic areas for a program to eradicate the tick, for a sanitizing spray. Many of the endemic areas are, of course, resort areas. There are good environmental reasons for opposing that approach. But there is another good, hardheaded reason. A safely selective spray is hard to imagine. And even if there were one it would hardly be worth the trouble. Advocates of a chemical attack on the tick don't seem to fully understand the nature of the tick and its life cycle. *I. dammini* is often called a deer tick. Its principal host is the white-tailed deer. That's where the ticks mate. Mating occurs in the fall. The males die after mating, but the females live on through the winter, and in the early spring they lay their eggs in the wild. Then they, too, die. The eggs hatch into larvae, and at some point in the summer the larvae, if they can, attach themselves

to a host, usually the white-footed mouse—the field mouse—and help themselves to a big blood meal. Then they rest through the fall and winter. That one meal is all they need. In the spring—the second spring of the cycle—they develop into nymphs. It is in the nymph phase that the tick usually brings the disease to us—if it carries the spirochete, and if it chooses one of us for its meal. The nymph feeds like the larvae—once in a lifetime. But that meal is a big one—a long one, anyway. It gorges for several days. And it seems that only at the end of the meal is the spirochete transmitted to the host. Feeding time can be any time during the summer and early fall. Then the nymph matures into an adult, and mates. It's true that the nymphs can be found on your lawn. But the reservoir is the wild—the field mouse. The field mouse is a burrowing mouse, and you don't often find its burrows in your front yard. You find them out in the woods and scrub. A spray would have to be a powerful spray to penetrate the scrub and soak down into the burrow. It has been generally supposed that the tick finds a suitable host by sensing its animal warmth. It waits on a blade of grass or a shrub, feels the passing warmth, and drops. There is a feeling now, though, that more than heat is involved. It has been suggested that a preferred host exudes a scent, a chemical force of some sort, that incites the tick to drop. Maybe some of us are more attractive to ticks than others. My old dog has had Lyme disease three times. I've treated her just the way I treat my other patients. Of course, dogs range. Proximity to the tick is everything. I've had several cases of Lyme disease in elderly women—old ladies who never got any closer to nature than the front porch. They puzzled me for quite some time. Then I finally figured it out. They all had cats. The cats, being cats, ranged. And cats are mousers. My feeling is that those cats did their mousing at the source—at the burrow. Then they came back home and jumped up on an unsuspecting lap."

I had been thinking about *I. dammini*'s principal host and mating place—the deer. I wondered if the deer might be a crucial factor in any attempt at control. I wondered if the elimination of the deer here on Long Island, or even just on Shelter Island, would break the cycle and abort the disease. Dr. Grunwaldt thought for a moment, and shook his head. "I doubt it," he said. "I think the tick would probably find another host.

And, besides, I can't see much public support for a deer-eradication program."

I knew what he meant: *What? Kill Bambi?*

I know of no one—friend or acquaintance or neighbor—in my part of Long Island who has had Rocky Mountain spotted fever. Nor do I know anyone who has had babesiosis. Lyme disease is a different matter, and this is not surprising. Dr. Grunwaldt told me that he had seen only one case of Rocky Mountain spotted fever in his 13 years of practice on Long Island, and only 20 cases of babesiosis. But he has seen and treated at least 400 cases of Lyme disease. I have a number of friends who have suffered its protean rigors. One of them, and one of the local pioneers in this morbid respect, is a woman named Priscilla Bowden (Mrs. Jeffrey Potter), an artist, an amateur flutist, and a knowledgeable gardener. Miss Bowden, a slim, dark-haired woman in her 40s, lives

Lyme disease and tick-related babesiosis may have been around for a long time, the first known to old-timers as Montauk knee, the second as Nantucket fever.

with her husband on a verdant acre in the village of East Hampton, with expanses of lawn and many shade trees and flowering shrubs in a pleasant surround of woods. They have—or had at the time she took sick—a small brown dog and a large white cat. Her illness, she told me in a talk we had at her home, had its beginnings just after the Fourth of July weekend in the summer of 1982.

"It was July 7th," she said, glancing at a sheaf of papers. "A Wednesday—I keep a diary. It's not a 'Dear Diary' diary, it's just a kind of social record, but if something interesting happens I make a note of that, too. Well, I'd been feeling mean for a couple of days. Not actually sick, but just not feeling well. I blamed it on the big weekend of the Fourth. Summer weekends here are always a strain. Too many parties. So I dragged around, and then, all of a sudden, it struck. It started with a headache—a horrible, terrible headache. And I felt burning up. I took my temperature. It was 103.5°. That was

around midafternoon. At around seven, I took it again: 104°. That was pretty frightening. I went to bed and spent a miserable night. I was still burning up the next morning. Jeffrey called Dr. Medler—Raymond Medler, in East Hampton. We were given his first available appointment: one o'clock. When I got there, I didn't have to say much. Dr. Medler took my temperature. It was 104.6°. He said he didn't know what was wrong with me, but with a fever like that the only place for me was the hospital. And right away. I said can't I even go home and get my toothbrush? He said no, that I should go straight to the hospital—Southampton Hospital. So I went.

"I was fortunate enough to get a private room. My headache was horrible. They got me into bed, and Dr. Medler arrived and started me on aspirin. It was amazing. In a couple of hours, my fever was down to 99.9°, and my headache had practically vanished. I felt well enough to ask for some paper and a pen, and I started making these notes. Then the aspirin wore off and my headache came back and my fever went up to 102.5°. They seemed to go together. First the fever, then the headache. Or maybe it was the other way around. My memory is a little hazy about those next few days. I made my notes, but the details are a little dim. Dr. Medler and the nurses kept asking me if I remembered having a tick bite. I said no—not as far as I knew. It was somewhere around that time that they began to speak of Lyme disease. I don't think I'd ever even heard of Lyme disease. I wrote that down in my notes, only I wrote 'l-i-m-e,' and 'arthritis.' That's what they called it then. They asked me about a rash. I hadn't noticed any kind of rash, and I didn't have a rash then. Not at that moment. That was Thursday and Friday and Saturday. My fever went up and down, and so did the headache. Then, on Sunday, there it was—a rash. It was a circular red rash, about three or four inches in diameter. It was on my leg, my thigh. Then I saw two more circles, also on my leg. One of the nurses found another one, on my back. So now it was established. I had 'lime arthritis.'

"On Monday morning, July 12th, a man walked into my room carrying a camera and a black bag. He stopped at the foot of the bed, and said, 'I can tell you one thing that's the matter.' I stared at him, and he said, 'Your kimono is not tied the right way. I've been to Japan, and the Japanese are very careful about whether the fold is to the left or the

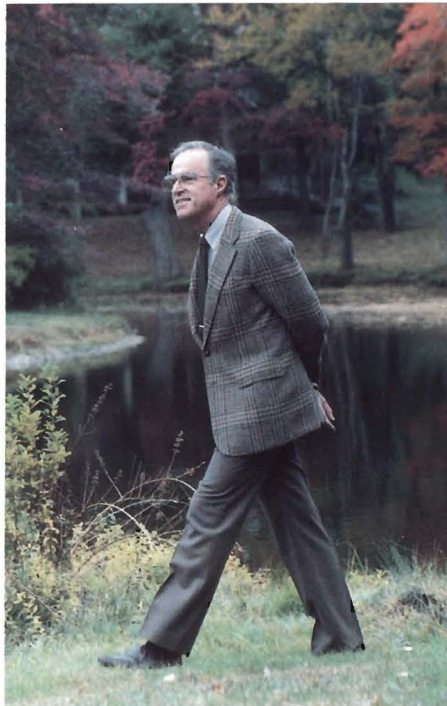
right.' My way—I forget which way it was—meant I was moribund or something. Well, that was my introduction to Dr. Berger—Bernard W. Berger, a dermatologist and, I later learned, an expert on Lyme disease. Dr. Medler had called him in as a consultant. Anyway, he made me laugh with his kimono joke. We talked, and I told him my sad story, and he opened up his camera and took some photographs of my rash. He told me what there was to tell about Lyme disease, and put me on a course of penicillin. Maybe I was already on it; I don't remember. One thing he told me was that in four weeks or so I might have a strange reaction. We talked about the tick bite. He said it could have been a few days before I got sick, or it could have been two weeks. There were certainly plenty of opportunities for me to pick up a tick—the garden, the shrubbery, the woods, the cat. I felt much better after talking with Dr. Berger. I asked Jeffrey to bring me some drawing paper, and I did a little drawing—a self-portrait of me sitting up in bed. There's a color print of it on the wall over there.

"I was discharged the next day. That was Tuesday, July 13th—my sixth hospital day. I wasn't exactly well. I was still on oral penicillin. My temperature when I got home in the early afternoon was 98.8°. But at seven o'clock that night it was up to 102.2°. Lyme disease is very strange. I woke up around midnight, and took my temperature again. It was down again—100.2°. The next day, it was normal all day. And so was I. I was well."

Miss Bowden squared her litter of notes and turned a page. "Now," she said, "it's August 27th. A Friday. I'd been feeling pretty mean off and on for several weeks. I took a nap every afternoon, so I could go out at night and join the fun. But then on that Friday I began running a little fever, and I didn't seem to have any strength. All my joints and muscles were stiff. The next day, I felt even meaner, and my temperature was 99.6°. By Sunday, I knew I was sick, and I spent a horrible night. It hurt to lie down. There seemed to be weights on my head and chest. I telephoned Dr. Medler on Monday afternoon, and he put me on aspirin. That may have helped some. But my stiffness turned to pain. Particularly in my back, neck, and shoulders. I've never been poked with an electric cattle prod, but I'm sure it would feel exactly like that: a stab of pain, then nothing for a moment or two, then another stab, in a different place. It jumped all over—back, neck, chest,

arms, head. Then, maybe because of those jumping pains, I began to feel nauseated. And I developed diarrhea.

"At some point, I was put back on penicillin. Around September 1st, I began to be really nauseated. I couldn't keep anything on my stomach. I even had trouble with pills. I was vomiting, or trying to, every 10 or 15 minutes. But some of the pains were easing up a bit. I



J. Michael Dombrowski © 1988 Newsday

Diagnosis: "Not everybody I see who has a high fever, with the general symptoms of the flu, has Lyme disease," says Grunwaldt, who has seen at least 400 cases of the disease. "But when I see those symptoms here in the tick season—in the summer and early fall—I don't think flu."

gather from my notes that the next couple of days were much the same. The days weren't as bad as the nights—trying to get comfortable enough to sleep. Then, on Friday, September 3rd, something new and awful happened. The left side of my mouth began to feel stiff, paralyzed. I remember trying to wash out my mouth with mouthwash, and my mouth wouldn't quite close. The mouthwash just dribbled out. I woke up the next morning, the beginning of the big Labor Day weekend, with the right side of my mouth partly paralyzed. It was almost impossible to eat or drink. I was drooling. And at some point I looked in the bathroom mirror, and I had Chinese eyes. The muscles around the corners of my eyes had gone limp,

like my mouth. I learned later that there's a name for all that. I had Bell's palsy. That was the worst—that was the peak. Then, little by little, I began to improve. By the middle of the month, I was almost back to normal. But even then, when I really felt well again, I wasn't. It was two months before I could play the flute properly. For a long time, all I could manage was the middle register. It was just a horrible experience. It changed my life. I don't know where I got my tick, but I never go into the woods anymore, I'm careful about petting any animal, and I've given up gardening. I'm going to exercise class, something I never dreamed of doing, but I have to get my strength back, and I never go out in the sun without dark glasses. It seems I have photophobia."

Driving home from the Potters', I thought back to my earlier conversation with Dr. Grunwaldt. The telephone had rung three or four times in the course of our talk. The calls were all from patients, and I gathered from Dr. Grunwaldt's comments that they all had to do with ticks. "Yes," he said, as I was leaving, as he walked me to the door. "There's a lot of concern around here. Not everybody who finds a tick has Lyme disease. But they have the possibility on their minds. So do I. Not everybody I see who has a high fever, with the general symptoms of the flu, has Lyme disease. But when I see those symptoms here in the tick season—in the summer and early fall—I don't think flu. Lyme disease is essentially easily cured if it is properly treated early enough. Even then, of course, it can be very unpleasant. But those of us who practice here on the East End have an advantage over doctors outside the endemic areas. We have a high level of awareness. Of course, all doctors everywhere are more alert to Lyme disease than they once were. But if you were to come down with Lyme disease, I would hope it happened here. The unlucky ones are the ones who come out here for a weekend or a week or so and then go back home to the city and get sick." □ © 1988 Berton Roueché

Berton Roueché is well known as a writer on medical phenomena for *The New Yorker*, where this article previously appeared.

Lawrence Clifford is a medical and scientific illustrator based in St. Louis.

Naming the Stars

*Into a star,
the old singer
sang as he
moved toward
the House of
Mystery,
Into a star
you have cast
yourself.*

*by Carter Revard
—illustrations by
Linden Wilson*

uncles carried on a small but brisk business in bootleg whiskey that they bought wholesale down by Tulsa, from three Creek Indian brothers who (unlike most producers of white lightning) actually aged their product in charred white oak casks buried for several months or even a year. So my uncles always had a good market for the stuff they ferried up to Pawhuska in a Model A coupe with oversize springs, not just to bear the extra weight but so the car would not sag low enough to let the cops know it had a load of whiskey in it.

Before long, though, the police officers developed an informant network—or, as my surviving uncle puts it, they paid some snitches to get in good with the Osages who otherwise would never tell who sold them the whiskey. Eventually the snitches snitched on my uncles, and my grandfather—who never lied in his life, and would have nothing to do with law-breaking, but couldn't keep his boys from getting up to such things—had to do 30 days in the County Jail for it. The cops had come round to the house on evidence offered by the snitches, and although various uncles had rushed into the bathroom and busted the bottles and poured and flushed frantically, enough hard evidence was sopped up in rags to present in court. Uncle Woody, though—then about 15—had stashed some gallon jugs down behind foundation blocks, so the family could eat for the week required to get a new batch of quality stuff. Never after that would the uncles rent a house in my grandfather's name: if a bust came, they'd be hit; he wouldn't.

Right alongside the Osage County Courthouse in Pawhuska, Oklahoma, is a vacant lot that has been asphalted for the poor souls to park who have come in to face the music—for Driving Under the Influence, for bootlegging, assault, breaking and entering, marriage and alimony disasters, and (for that matter) for the foreclosures or sales and leases, I suppose, which those with property, vehicles, or spouses to offend with, or to law over, must come in to a county courthouse and face up to. I'm told that in this waterproof blackness once stood a house rented by my grandfather not so long before I was born, where my

What's always agreed when this story's told is that there were no jobs around, so with no legal ways to eat, it was by quenching illegal thirsts that the DNA and RNA on this side of my genes could egg me on. There were, of course, people making an honest living in Pawhuska then. Just across that vacant courthouse lot, a backyard faced the house my folks called theirs; in that yard stood the cultured, responsible mansion of the Mathews family, whose Osage son John Joseph Mathews had already been soldier (flying instructor in the First War), scholar (two years at Merton College, Oxford), courtier (Paris, Morocco, Sunset Boulevard). He would soon return to Pawhuska and write *Wabkontab: The Osage and the White Man's Road* and *Sundown*, classic accounts of what whiskey, cars, white sex, and drugs in the black flood of oil money were doing to the Osages.

The Mathews house still stands on Big Hill's brow next door to the old Osage Agency, a few steps from the new Osage Clinic where in 1981 I went with my Osage stepfather to beg anodynes for my mother, dying of cancer. Doctors don't lose their jobs, come recession or depression, just as bootleggers never lack for clientele—each making more work for the other, I suppose. In 1978 when I brought some Indian Literature students down from St. Louis to Pawhuska, where my Osage folks gave a traditional dinner for them, John Joseph Mathews guided them and me around the Osage Museum, where his picture now hangs, and we had some good words about our different days in Merton College, Oxford.

I think now of Grandpa looking out through the jail bars at the big house where maybe Joe Mathews was already writing, and I think of my pregnant mother and my uncles, looking in both those directions. There was another man in the jail there about that time—the one who master-minded the murder of a good many Osages for their oil money, a story made into a novel later by Joe Mathews' stepson. Now here they all are, looking out from these words at strange readers. The past has windows, the future only doors, and God knows who may be looking at us through the peepholes where in this ragged English I knock for some of us.

I guess I've happened because in 1930 among the customers of my uncles there were some mixed-bloods with lots to spend and lots of appetites to spend it on, and these apparently had an eye for beautiful nubile sisters and daughters of bootleggers, as witness my twin sister and me. Our father, whom I never recall seeing in person, died in the 1960s



down in Texas, it is said, which is also where an uncle, a pretty well-known country-and-western singer whom I am supposed to resemble closely, now makes his career. Twice unlucky, our mother did better the third time: she married our stepfather Addison Jump, and we have four half-Osage brothers and sisters now.

Had I been old enough to notice such things or remember them, it must have been a wonderful change for us, moving from small marginal houses rented under the eyes and often the clubs of the law to the roomy modern house on Big Hill where we had a maid and a spaniel and a telephone and presently a new Pontiac Eight and a Model B pickup, the latter for use in farm work when we would move from Pawhuska out 20 miles east to Buck Creek valley, five miles west of Bartlesville, the 80-acre meadow with some tillable land where I grew up, prime bluestem hay and a 12-year-old house wired for electricity with its own Kohler-plant generator, a two-story garage also wired, its own cistern and well and inside bathroom working off water pumped from the well by a cranky two-cylinder engine in the motor house, a haybarn and stock barn and windsock on a pole for the plane that the previous owners had landed out behind the haybarn they used for a hangar.

I sit typing this in the upstairs of the old garage, a fan on to bring the ovenlike June air in somehow cool as I look east over knee-deep wild flowers and bluestem hay to the eastern prairie hills behind which Phillips Petroleum's research plant smokes, seethes, and sucks in hundreds of cars each morning, then spews them out each evening to spread out along U.S. 60 into Bartlesville or out this way in Osage County—did I say that Osage County is in fact the Osage Reservation, so I was born “on the res” in the Agency town, not far from the Osage

RIGHT ALONGSIDE THE OSAGE COUNTY COURTHOUSE . . . IS A VACANT LOT . . . WHERE MY UNCLES CARRIED ON A SMALL BUT BRISK BUSINESS IN BOOTLEG WHISKEY WHICH THEY BOUGHT WHOLESALE DOWN BY TULSA, FROM THREE CREEK INDIAN BROTHERS . . . (AND) FERRIED UP TO PAWHUSKA IN A MODEL A COUPE WITH OVERSIZED SPRINGS . . .

Agency? Better stress that for east-of-the-Hudson friends of the Indian who would like to know that a child of the wild who doesn't look much Indian was actually born on an Indian reservation and lived among the Indians when he was growing up. Did I say that Phillips Petroleum, whose world headquarters are in Bartlesville, Oklahoma, got its start in 1917 and still derives considerable income from Osage oil, and that Uncle Frank Phillips, founder, was an ol' Iowa farm boy who would give a big Sixty-Sixth Birthday Party for all the school-children of the rural schools in Washington and Osage Counties? Have I mentioned that on the memorable occasion we children who attended Buck Creek (District 66) School in Osage County went in to this party at the old Bartlesville Civic Center and Uncle Frank came out on stage, between acts such as a basso singing “The Man with the BAY-AY-AY-AYS . . . VI-OHL” and Gretchen Wienecke (later on Broadway in *Silk Stockings* as Gretchen Wyler) doing a sexy long-legged postpubescent dance? Uncle Frank told how he did it, worked hard, got up early, freely enterprised, started as a barber or maybe it was farm boy, always treated the Indians fairly, and we could do the same. Then he gave each of us a sack of hard candy and fruit and a silver dollar.

But he did more than that for us children: he owned Woolaroc, down in the heart of the Osage Hills where there had always been a spring, and he had bought several square miles of rolling blackjacket-covered hills around that spring, dammed it for a lake, built him a lodge, and brought back trophies from Africa—elephants, springboks and bongo antelopes, and lions—and a skeleton of “an Indian who died on the Trail of Tears,” and lots of wonderful things from the Spiro Indian Mound where he bought digging rights. Better yet, he had live water buffaloes and American bison and wapiti and peacocks and swans and parrots and so on wandering around under the blackjacket trees and scrub oaks, and I recall one school picnic at the end of the year, early May or so, when we were driving in the teacher’s car, redheaded Mrs. Nameless

*The past has windows,
the future only doors,
and God knows who
may be looking at us
through the peepholes
where in this ragged
English I knock for
some of us.*

who was caught (I heard say years later from an older kid whose folks were willing to gossip as mine were not) by one member of the school board, *in flagrante* on her desk at night in the schoolhouse with another board member, and so had to be replaced next year by another teacher, this time not a divorcee like her but a happily married woman who to the scandal of the board and neighborhood got pregnant and finished the year, my fourth grade,

teaching us to add while giving us a practical example—when we were driving along the entrance road at Woolaroc in Mrs. Nameless’ car, I was watching a group of wapiti of which one still had his antlers and just then his left antler fell off his head. It was hell getting them to believe me but I pointed out that he still had only one antler, the right, and if anybody wanted to go over there the other antler would be lying on the ground. In those days we said *laying*: it’s a wonder somebody didn’t say it might be *laying* on the ground but I was *lying* in the car.

So Frank Phillips helped to educate us in the Trail of Tears and the ways of elk antlers, but I never got the hang of founding a big oil company. So let us go back to Pawhuska to see what hung me up. A sense perhaps of impermanence, of being one of those who could be told to jump, and cower for good reasons.

Our houses did not last. When Uncle Woody and I drove down past the Osage Agency to the old Pawhuska cemetery to see the house where he remembered my being born, it was another vacant lot. “I be damned,” he said, “it was right in here.” It was one of those town margins, trees, the yards not lawns, the grass that grows instead of being cultivated. These people work for others or they make a bare living or they never quite get the groceries paid for and they are trying to keep up with the other bills.

So it was no surprise when we drove round the other end of Pawhuska, out where U.S. 60 leaves on its way to Uncle Frank’s town, and saw a vacant lot where the old hospital had been, the one where we were able to do our small first wauling. No surprise, but strange, to see it had melted into air, into thin air, that second floor where we had run down the corridor and turned in to see my younger sister Ireta (Lay-ta-wee-sa, her Osage name was), and my younger brother Jim, and then Josephine, and finally Junior. These red bricks of the hospital had been so solid; our grandfather had hauled them up on contract, had helped build that hospital. The mules he

had still used until about then were Old Beck and Jude, same ones who had pulled the covered wagon from the Current River in Missouri into the oil-booming Agency town of Pawhuska, after our grandmother had died.

All that work, the new brick town of Pawhuska my white grandfather had helped build, the rented frame houses where we scuffed along. Vacant lots. Doctors, lawyers, merchant chiefs knew what; we at their bidding stood or sped. It was for the Agency and the Superintendent later to say what must be done with the oil money, and of course at first that was all needed to buy the 80 acres, to put in the barbed-wire fence—driving the posts in with the big 16-pound maul, stretching the wire with the rope-and-pulley so tight it twanged like a banjo and the post-staples screeked with the strain when we nailed them in. To dig the pond, my stepfather Addison big and powerful, my grandfather Aleck short and masterful, the uncles swarming and laughing and swearing, the metal slip scraping and sleekly digging into the earth, grating into rocks that jerked and twisted the handles in my grandfather’s hands as he held the slip on course and hyaaed the mules, and us barefooting in the slate-smooth part behind as the earth began being moist then muddy.

Money went on a team of horses who died within a month, and on the pickup with which we dragged their corpses out behind the barn for the coyotes and the buzzards. We did not have to pay the buzzards to demonstrate flying, their slow wheeling in Spencerian ovals across from the western hills and bluffs until they circled above our meadow, quarter-mile up, watching usurious from their naked red heads as they prepared to come down, then tilting, slanting down, running out of updraft, sweeping and swinging almost out of control down to bring up braking, to drop short of the great bloating corpses, fold their wings like not quite reliable umbrellas, perching, lowering heads, picking, seizing, tearing, gobbling. But the *cattle* we had to buy, the *pigs*, the seed corn and seed barley! and with no threshing machine, the neighbors to feed at the harvest dinners!

But now we had a bluewater pond for cattle, and fish came into it, and willows began growing and elms and hackberries along its dam, persimmons and buttonbush and such up in its swampy top areas where the redwing blackbirds perched and oiled their hinges and nested and complained and flaunted and sometimes were shot from the tall willow, now that it had grown all the way up, by my older brother who could hit a crow on an electric wire at a quarter-mile with his singleshot .22, with Long Rifle cartridges at least.

Yet this was a crazy bunch trying to farm in the middle of the Depression, and the uncles being killed by police or fellow bootleggers, all the stories of Uncle Carter getting shot when he came out of the bank he had just robbed by police who had set him up with a snitch—entrapment it would be called today but then they considered it a feather in the cop-cap; and about his being shot while hijacking a bootleg shipment coming in from Joplin by the bootlegger with that hideaway gun that Carter and his buddies had not found when they patted him down as they took over the car and Carter was driving him off onto a side road to leave him there to walk back while Carter and buddies went off with the whiskey. And the much more guarded stories afterwards about what happened to the bootlegger with the hideaway gun after he was let off in court on a justifiable homicide, how someone nameless had followed that guy for two years and nearly got him in a little dusty town in Texas, but the guy got the wind up and skipped out just ahead, and finally that summer



(AS) I SIT TYPING THIS IN THE UPSTAIRS OF THE OLD GARAGE
 ... I LOOK EAST OVER KNEE-DEEP WILD FLOWERS AND
 BLUESTEM HAY TO THE EASTERN PRAIRIE HILLS BEHIND
 WHICH PHILLIP'S PETROLEUM PLANT SMOKES, SEETHES, AND
 SUCKS IN HUNDREDS OF CARS EACH MORNING, THEN SPEWS
 THEM OUT EACH EVENING ...

or later spring some years after Carter's funeral, word came that the killer was resting in peace.

And Cousin Roy who had sat across from the Pawhuska Courthouse with his squirrel rifle, him only 13 years old, waiting for the cop to come out who had killed his dad, our Uncle Aubrey, the cop who beat Aubrey to death in the cell and then said he fell out of his bed and hit his head on the floor, and the cop came out of the courthouse and Roy had him in his sights and just couldn't pull the trigger but went to California the next week instead, hopped a freight with a buddy and landed in Truckee where he worked in a sawmill, then got into the migrant worker circuit with some other Okies that he knew from Pawhuska, worked the truck farms from lettuce down in the Imperial Valley up through the artichokes and tomatoes, the fruit trees in the Central Valley, the

cherries and apples up in Washington, put the damned grapes and tomatoes and lettuce on the tables of good old Uncle Frank and Uncle Winthrop and married a really good woman, smart, who saved up, and they had five kids, and bought them a used Airstream trailer after Roy got out of the Marines and they all worked with the kids chipping in and, hell, they got them a little house on the edge of Porterville and there they were up in the edge of the Sierras and Roy could hunt him bears or deer or whatever and had half the damn year off to do as he pleased, go bass fishing, what Grandpa would have loved to do in Indian Territory no doubt if there'd been some honest way to do it, and Roy saw to it that his mother came out and had a little house down the street with plenty of time and grandchildren, and there was the orange tree and maybe the apricot tree in Roy's back yard — so far as I'm concerned he redeemed his time.

So I'm glad he didn't shoot that cop, and glad the freight trains were free for hoboes in those days, and glad there was a California before Steinbeck and Ronnie dumped the wrong myths into its margins. Yeah, I saw references to Okies out there when I got out to be semanticist-linguist on that computer and dictionary project funded by the Defense Department at a think tank, but I visited Roy and Celestine and their kids, when we lived in Pacific Palisades.

Well, so that isn't very Indian, is it? I should mention that Grandma Jump always had the cool quiet house with beautiful rugs and sofa and Indian blankets on the easy chairs and across the sofa-back, you know those Pendleton blankets all red and green and blue with their deep soft wool. When my mother and stepfather got married, Osage oil money was still coming in, and his grandmother, Grandma St. John, was still alive and had some head-rights to the oil money, as did his mother, Grandma Josephine Jump.

So there was always fresh fruit on that big mahogany table in their dining room, and outside a big new Oldsmobile and a new pickup with camper canvas on it, and there were Aunt Arita and Uncle Kenneth who was a football player and boxer and went to Notre Dame just before World War II, and I vaguely recall when Uncle Louis (for whom my older half brother was named) was killed in a car crash who had been going to be a dentist in New Orleans and drove too fast. And Aunt Arita was smart, could type and do everything and she read books, so my idea of Indians was not purely "Gettun up Scout" or "I will fight no more forever," let alone Twain's Injun Joe or the rest.

The summer after the war I stayed over at Grandma Jump's to help Uncle Kenneth, still having bad dreams from Iwo Jima, get the farm south of Pawhuska going again, and Aunt Arita had Marcel Proust's stuff around in a bookcase, and to get a break from shoveling oats one day I took a copy of *Swann's Way* into the outhouse and good old Proust would have sniffled if he had seen how the red wasp with black wings, trapped in a black widow's web down in the toilet hole's semidarkness, interested me much more than *Remembrance of Things Past*. I have a little better sense now of what Proust was up to and may try again to read him one day. Not in an outhouse though—he still can't compete in that league.

But I also had little sense, as a kid, how rough a time and how wild and varied a time Grandma Jump had had before I was born. Born in the 1890s, she was put into a convent school at 10, forced to speak English. (All her life she spoke with an Osage accent, though not until I was in college did I suddenly realize that that was what made her English run so counter to the usual cadences of pitch and stress; it was just



BUT NOW WE HAD A BLUEWATER POND FOR CATTLE . . .
WHERE REDWING BLACKBIRDS PERCHED AND OILED THEIR
HINGES AND NESTED AND COMPLAINED AND FLAUNTED AND
SOMETIMES WERE SHOT FROM THE TALL WILLOW . . . BY MY
OLDER BROTHER WHO COULD HIT A CROW ON AN ELECTRIC
WIRE AT A QUARTER-MILE . . .

the funny way she spoke, the “Indian” way, until in college I heard this guy who was a native speaker of Greek and his melodic runs were so different—it suddenly hit me, Hey, you dummy, Grandma talks with a “foreign accent”!) Then, at age 14, Grandma was married off by her folks to Jacob Jump (I am told this is a translation of an Osage name that refers to the buffalo jumping forward).

So she had only four years of being taught English. She was widowed 12 years later and had quite a life for the next

12 and more, until her oldest son Addison married my mother. She was a strong woman, quiet but always knowing what was on both sides as well as in front of her, and she had many friends in the tribe and was very much respected and listened to. Photographs from her younger days show a tranquil, forceful woman, handsome and unperturbed by the camera. She had a terrific laugh, loud and slow, which like her English speech rang the Osage changes, and it broke out oftenest for puns and wordplay.

My stepfather, her oldest son Addison, was born in 1910, soon after the Osages had been forced to accept individual allotment of their reservation lands, and when the old ceremonies were being thrown away. So Addison was put into a military school, beaten if he spoke Osage, and had the language taken from him except for his understanding quite a lot of it. The younger children were educated, like him, in schools where Osage was being killed. So Grandma Jump’s mother, Grandma St. John, whom I knew for almost eight years before she died when I was 10 (she must have been 80), barely spoke English, and her daughter (Grandma Jump) was fluent in English but spoke with a strong accent, and her grandchildren (my stepfather, uncle, aunt) had Osage peeled from their tongues and were left with English, only a little tangy with something that those who have grown up on the res would recognize, even over the telephone, as an Indian accent on their Oklahoma speech.

But suddenly the money was gone, the Depression took hold on us too, the long rainless baking summers dried up the pond, we sold off the cattle, the last Buick went sour soon after its radio had brought us the Louis-Braddock fight, we killed not only the pigs but the sow, and Addison was having to work in the hayfields and hoeing corn and so were all us boys, even Uncle Woody and Uncle Dwain were out on the road selling magazines, the only job they could find and lucky to get it. They drove from Brownsville, Texas, to Butte, Montana, selling *McCall’s*, *Newsweek*, *Redbook*; postcards would come in, or letters from Butte on thin, quangly sheets of copper, or a crate of grapefruit from Brownsville. But when was it they and Uncles Arthur and Bert went out to Utah and worked for the Mormons and had to do without coffee for breakfast with those strict people there, as Uncle Dwain said, like to died every morning? Twelve gallons of honey it was, I think, that they sent us from Utah that time, in gallon cans.

One thing was that with seven kids there were always plenty for games, cowboy and Indian if nothing better, tree-climbing, swimming or fishing or hunting rabbits, squirrels, out on the meadow or up on the hills around our valley after the meat and adventure. And when I was just old enough to appreciate the extra company there were our Ponca cousins, because Uncle Woody had met a Ponca girl at the Osage dances one year in September—they used to dance in June and also in September—and by December they were married, and presently there were Darlena and Buck and Carter Augustus and Cordell and Craig and Kathy. And because there were no jobs and we had the Osage money in the early days there would be weeks, months even, when Aunt Jewel and the Ponca cousins would be staying over with us and Uncle Woody out on the road, if he wasn’t laying low avoiding a bootlegging rap.

One reason why, when on a February day in 1973 I read in the St. Louis newspaper that Indians had taken over the hamlet of Wounded Knee and Carter Camp was serving as their spokesman, I was both worried and proud, and why I went up there in March to see what the hell was going on inside there, was that these were my Ponca cousins that I grew up

with running around the yard there or out in the haybarn or off on Buck Creek. And another reason was that before my mother had married Addison, Aunt Jewel and her folks had helped keep me and my twin sister down on the Ponca res at White Eagle for quite a while—the first photograph of my twin sister and me, aged about one year, is sitting in front of an Indian blanket, taken down there at White Eagle when Aunt Jewel kept us there.

I don't have to say things, then—do I—about extended families, and hard times shared, and a peculiar sense that being Indian meant being very rich and very poor, quietly dignified and raucously funny; I haven't even said anything about Uncle Gus, the brother of Aunt Jewel and a traditional Ponca who had been sent on his vision quest and was trained to be a Ponca leader, who became a wonderful wardancer and was among those who first brought the "fancy" wardance onto what I guess I can call the "powwow circuit." He gave you that sense of a man who was a great dancer before he even walked out there toward the drum and started to dance, who could make you know that this was a warrior, who let you see what it was that so impressed the Europeans, when they came into this continent, in the people who appeared to speak with them. It was a role; he stepped through this door from 1491 to dance for us, came out with eagle wing and vision. But the dance was Gus—not all of him, but the way light is not all of the sun: what you saw him by was this intense brilliant presence.

Let's see, then. Earliest memories of small frame houses around the ragged edges of Pawhuska, of mules and uncles and homebrew and whiskey, then of the Ponca res for a while, a time when Aunt Jewel and her great-aunt and her mother took care of us. Her aunt remembered when the Poncas were forced down from Nebraska into Oklahoma, and I have written in "How the Songs Came Down" (in *Ponca War Dancers*) of the song we used to ask Aunt Jewel to sing us later, the Ponca song we thought of as one to go to sleep unafraid with, and how it turned out that its Ponca words said, "What are you afraid of? No one can go around Death."

The aunt had made it when, in Oklahoma, her brothers were so discouraged and the whiskey was getting the Poncas down so far, and it was a strongheart song, a warrior song to encourage them. Of her brother, Uncle Gus, I have written in "Ponca War Dancers," and of my uncles Carter, Arthur, Bert, and Dwain in other poems also printed in the 1980 volume *Ponca War Dancers*.

I try now to think of each poem as a giveaway talk, one honoring that relative, the way at the end of a dance there will be a time when the Indians ask the head of the occasion—the M.C., I will call him—to call up some of their folks, and the women will be given a shawl, the men a blanket, or some such gifts, and the speaker will tell why the person is being called to receive this. With good thoughts and a good heart, we tell of what this person has done that has made us want to honor him or her, and of the good feelings that exist between our folks and this person.

When I wrote "How the Songs Came Down" I was thinking of all the places I had been, and of how each person is so like a black hole out of which no light could ever emerge to another, and I began it thinking of how, there in the St. Louis suburban area where I now live, I could lie at night and look northward out the bedroom window into the leaves lit by a full moon and streetlamp with the new leaves just softening all that light, and I could see a couple, fortyish, overweight, in

Bermuda shorts and T-shirts walking down the midnight center of the street below us, knowing we were there and knowing what we would have been doing but with no idea who we were, who our folks were, what we were like as persons, and ourselves no less ignorant of them, though they must be neighbors living in the next block or two.

Then there was a mockingbird singing out in the catalpa just past our back yard, in the alley, and I got to wondering about a bird that would sing loudly at night when the owls would be just hunting by ear for such prey, and this began to get together with the black hole thing, the way something in us sings or shines out for the strangers, friend and foe, though in theory it is not possible. So I was thinking too that it is not only people who are so in the dark to each other, but people and rocks, clouds, trees, birds, and creatures, and of how the memories in us both stay and go the way water stays and goes in a beaver-pond, the fish in it like our strange unseen theories and perceptions and memories, time flowing on through the dam of molecules in our brain and our "self" drifting there for a while. And how dangerous it is to let out that energy, how at risk we are if we do sing to the owls, like the mockingbirds.

But thinking that way, I had a picture of us as kids in a summer night under a full moon, those times before air conditioners when we would go take our pallets out on the front porch in the moonlight there in the Buck Creek meadow, and then how the radio shows had once a series about werewolves and the eerie howl over the radio scared the scatology out of us kids there under the full moon and thinking of the coyote howls up in the hills around our valley-floor meadow. So we were out there, and Aunt Jewel and Ponca cousins were there, and Aunt Jewel sang us the Ponca song as we were going to sleep, over and over. And I had (only a little time before I wrote the poem) heard from Aunt Jewel what the words of that song meant: "What are you afraid of? No one can go around Death." And it struck me that this is how the songs come down, how we sing and let the owls listen, how Indian songs stay alive and help our people survive.

So I was able to finish the poem and give her back some honor for the courage she gave us and still gives. But just so the Anglos don't think this is a song they should not listen to, or need not, I took a little swipe at old Willie Yeats in its last line, since I can't ever be disgusted enough with his damned mechanical birds in Byzantium, and I cast Aunt Jewel in bronze there on our front porch but a living bronze of American Indian, Ponca that is. That way I was able to honor the mockingbird, our American singer that takes all the other songs and shouts them at the moon and to hell with the great horned owls, and honor Aunt Jewel, when I said:

She tells her children lately now, some of
those real old things,
now that the time has come
to pass them on, and they are ready
to make new places for what she
would sing into
the moonlit darkness like
a bronze and lively bird.

*I don't have to say
things, then—do I—
about extended fam-
ilies, and hard times
shared, and a peculiar
sense that being Indian
meant being very rich
and very poor, quietly
dignified and raucously
funny.*

If there are so many birds in the poems that come to me, it is because on the meadow and with the elm, catalpa, poplar trees around a house where birds would have only these trees except for the willows of the ponds half a mile away, our trees were where the orchard orioles, robins, turtledoves, scissortails, bluebirds, kingbirds, dickcissels came to perch and sometimes nest and sing or shout. And the mockingbirds and shrikes, the (once) indigo bunting in the garden, the yellow-headed blackbirds, flickers, redheaded woodpeckers and yellow-bellied sapsuckers, the meadowlarks flying and singing out over the meadow, landing 20 feet away from their sideways-tunnel nest down under the tall green hay and wildflowers so they could take a cautious periscope peek around before ducking under the grass and scuttling along their trails to the nest . . . and the bobwhites with their 15-egg nests, and sparrow hawks and the redbill and Swainson and red-shouldered hawks, the turkey vultures, the marsh hawks cruising and tilting low over meadow.

How do kids in cities survive with only movies and discos, broken glass in alleys and neat front lawns? For us there were baby rabbits that our cats would bring in stunned but alive, and skunks that educated our dogs but cats must have learned to let alone without getting sprayed, since I never saw a cat come in sneaking and stinking the way every one of the dogs, one time or another, did.

Sure, there were the dances, Osages and Ponca mainly. Not, for us kids, the way it was for uncles and the older Indian folks. Uncle Woody and Uncle Gus used to go roostering off in the Model A to one powwow where Gus would win the prize for the fancy wardance, then on to the next to repeat it; we kids never went along. It never occurred to me to learn the languages, though when Grandma St. John and Grandma Jump were there they always spoke Osage to each other, and Uncle Woody learned to speak Ponca with Aunt Jewel while he was hiding out from the Feds down at White Eagle, the time the U.S. marshal, old Smithy Leahy, sent word along to Woody that he knew Woody was there and knew he would be coming over to Pawhuska to his brother Carter's funeral—but to come at night.

Uncle Woody did that, and sat up all night with the body, and went back to White Eagle without being arrested. Leahy knew Woody would understand the message: Smithy would not have arrested a man at his brother's funeral, but he had some deputies that would have done it and he could not control them during the day when they were on duty.

So like the mockingbird I have more than one song but they are all our songs. It has seemed to me that no one else will sing them unless I do, that when Ovid or Virgil or Horace promised someone he would set them among the stars as long as the Latin language should last it was not a bad idea, and it did not have to be some semi-pro like Corinna whom one fitted for a constellation, nor even some semi-thug like Octavius Augustus Caesar; it could be my grandfather, James Alexander Camp. When Octavius died he was holding together pieces of an empire; when my grandfather went he was bringing in wood for our fireplace. My uncle Augustus McDonald was a better dancer than Augustus Caesar, or Nero for that matter, and my cousin Carter Augustus Camp a better singer of Forty-Nine Songs, not to mention he was once elected national head of the American Indian Movement and is now on the Ponca Tribal Council and going in to Washington, D.C., to confer with the present emperor. Who knows, he might have his finger on the button one day and wield more power than that other Augustus. Somewhere, a kid on the res . . .



I HAVEN'T EVEN SAID ANYTHING ABOUT UNCLE GUS . . . WHO BECAME A WONDERFUL WARDANCER . . . HE GAVE YOU THAT SENSE OF A MAN WHO WAS A GREAT DANCER BEFORE HE EVEN WALKED OUT THERE TOWARD THE DRUM . . . HE STEPPED THROUGH THIS DOOR FROM 1491 TO DANCE FOR US, CAME OUT WITH EAGLE WING AND VISION.

Schooling. A one-room country school a mile from home, eight grades, my twin sister and I walking to it one spring to see (I now see) whether we were up to starting it that fall, although just turned five in March. The long folding bench of maple wood at the front of the room where the teacher held recitations—imagine eight grades, all subjects, kids from five years old to 17, up to 30 of them, for \$150 a month—was smooth and comfortable, and we were up to the test, and we graduated at 13 as valedictorian and salutatorian after serving as janitors during our eighth grade for the nine dollars a month that allowed us to contribute a little more at home than just a pair of starving mouths.

Good teachers, tough and tender Miss Conner with whom we listened at noon to Bob Wills and his Texas Playboys on KVOO from Cain's Ballroom in Tulsa; jovial avuncular Mr. Lloyd who hitchhiked from Bartlesville every morning that war year of our eighth grade, played softball with and prayed over us, harmonized beautifully on "Walking in a Winter Wonderland" with a young woman from town who came out to the Christmas party but would not marry him. Ahem, distinguished career, spelling down the school when I was in the third grade, graduating as valedictorian of all Osage County—no, just coaledictorian, since Dicky Dickson of Indian Camp School in Pawhuska and I tied for high average scores for five years on the State Tests.

The shock of going in to the 3,200-student seventh-through-10th-grade high school in Bartlesville where I knew no one but had the blessing of a twin sister to tell the girls that I was better than I looked, and report to me which ones would not turn me down flat. A kind of social limbo at first, not one of the poor defiant West Siders, nor rich insufferable South Siders: an Outsider. At age 13 and very small for that age, up against it with the boys but able to do enough kamikaze stuff in the lunchtime football games on the grass and concrete and enough country-style wrestling to keep from getting too badly bullied the first year. So unbelievably many girls were so incredibly beautiful, I might as well have landed in Hollywood on a movie lot in that Sweater Girl time.

No money for dates, no car, no line, had to get right back to the country and work after school, mostly then at training greyhounds—I hope there is never a place in any future life for cleaning out a hundred or so kennels of stinking hay, getting up at four-thirty or five in the morning and walking or running the dogs three to five miles before school, and after school cleaning kennels, grooming dogs, killing and skinning and butchering cattle or horses for them to eat, helping cut and stack firewood, plowing and harrowing the coursing fields for the trials.

Very little Indian in high school except a beautiful Cherokee girl that picked somebody else, dammit. Senior year, they put me up to compete for a college scholarship in a couple of things and I won one, a kind of radio show, College Bowl, that now would be classed as a trivia quiz, emceed by a brilliant speech and drama man from the University of Tulsa, Ben Henneke, later its president. This got me to the University of Tulsa.

Now, why the hell should I go through standard college stuff? Good teachers, wonderful friends, Professors Eikenberry and Hayden educated me so far as I was disciplined enough to get what was offered. I am embarrassed by remembering failures to learn, but they and others there were the best teachers I could have found anywhere. They put me up for the Rhodes Scholarship and it was given to me. Then the honor that is for me the highest: Grandma Jump and the Osage elders held a naming ceremony in September 1952 and gave me my name, in Pawhuska at the Legion Hall; Chief Paul Pitts, Mr. and Mrs. Wakon Iron, Hazel Lohah, and many others signed the copy of Mathews' *Talking to the Moon* that was given me that night after the hand games and all. A great kindness.

So, sent to Oxford, I am reclaiming what's worthwhile in Europe for our people, am calling the Muses to Oklahoma, where the cowpond we made is as live as those springs in Greece that in the spring of 1975 I toured with wife and kids in a little rented Volkswagen that we drove almost up Mount Olympus. But I expect the Muses to behave like the strong Indian women they are over here, and to sing Arcadian songs, in

the Osage Hills, that Okies can follow. I'd like to bury Caesar, not keep on praising him. The 1,000-year Rome, 1,000-year Reich, 500-year Ameropean empire are more than my meadowlarks can fly up to the stars.

And less than they want to fly with, since they need nesting places in the Fifth World of nonaligned bluestem. I have tried to turn the old stories and the new sciences into present myth, in the poem "Dancing with Dinosaurs" (in *Ponca War Dancers*). It is "science" that birds were once dinosaurs, science that some of them migrate over the Atlantic from Maine to Venezuela, flying nonstop at 20-odd thousand feet for three days and nights; and I have imagined that the dinosaurs learned this when the continents separated and the Atlantic came between them and their winter homes. Then I have seen that we put on feathers to survive, as the dinosaurs did, and that we sing as the birds do, and have raised this into a myth that like the birds, when we dance in our feathers to bring the new children into our circle, when we sing the old songs, we are doing just what the old Osage Naming Ceremonies, linked to our creation stories, describe:

now as we face the drum
and dance . . .
. . . to honor on a sunbright day
and in the moonbright night
the little girl being brought in
becoming one of us
as once was done for me,
for each of us who dance,
I have called them here
to set them into song
who made their rainbow bodies long before
we came to earth,
who learning song and flight became
beings for whom the infinite sky
and trackless ocean are a path to spring:
now they will sing, and we
are dancing with them, here.

Into a star, the old singer sang as he moved toward the House of Mystery where the child he would give its name was waiting among the assembled representatives of the clans, arranged to repeat the starry order: *Into a star you have cast yourself*. I am naming, as I go, as I approach the House of Mystery, those who have cast themselves into our star and are walking with us here. I am Carter Revard (Nompehwathe), at Buck Creek, Oklahoma, June 21, 1984. □



Born in 1931 in Pawhuska, Oklahoma, in the Osage Tribe, Carter Revard is a former Rhodes Scholar and author of many poems and two books, *My Right Hand Don't Leave Me No More* (Eedin Press, 1970) and *Ponca War Dancers* (Point Riders Press, 1980).

Since 1961, he has taught at Washington University where he is a professor of English, specializing in medieval literature.

This article appeared originally in a volume titled *I Tell You Now: Autobiographical Essays by Native American Writers*, edited by Brian Swann and Arnold Krupat and published by the University of Nebraska Press.

Linden Wilson is a freelance illustrator based in St. Louis whose work has previously appeared in *Esquire* magazine, *The New York Times*, and other publications.

Opening at Lehigh University this spring, the ATLSS Center is John Fisher's challenge to the construction industry.

Call to Arms

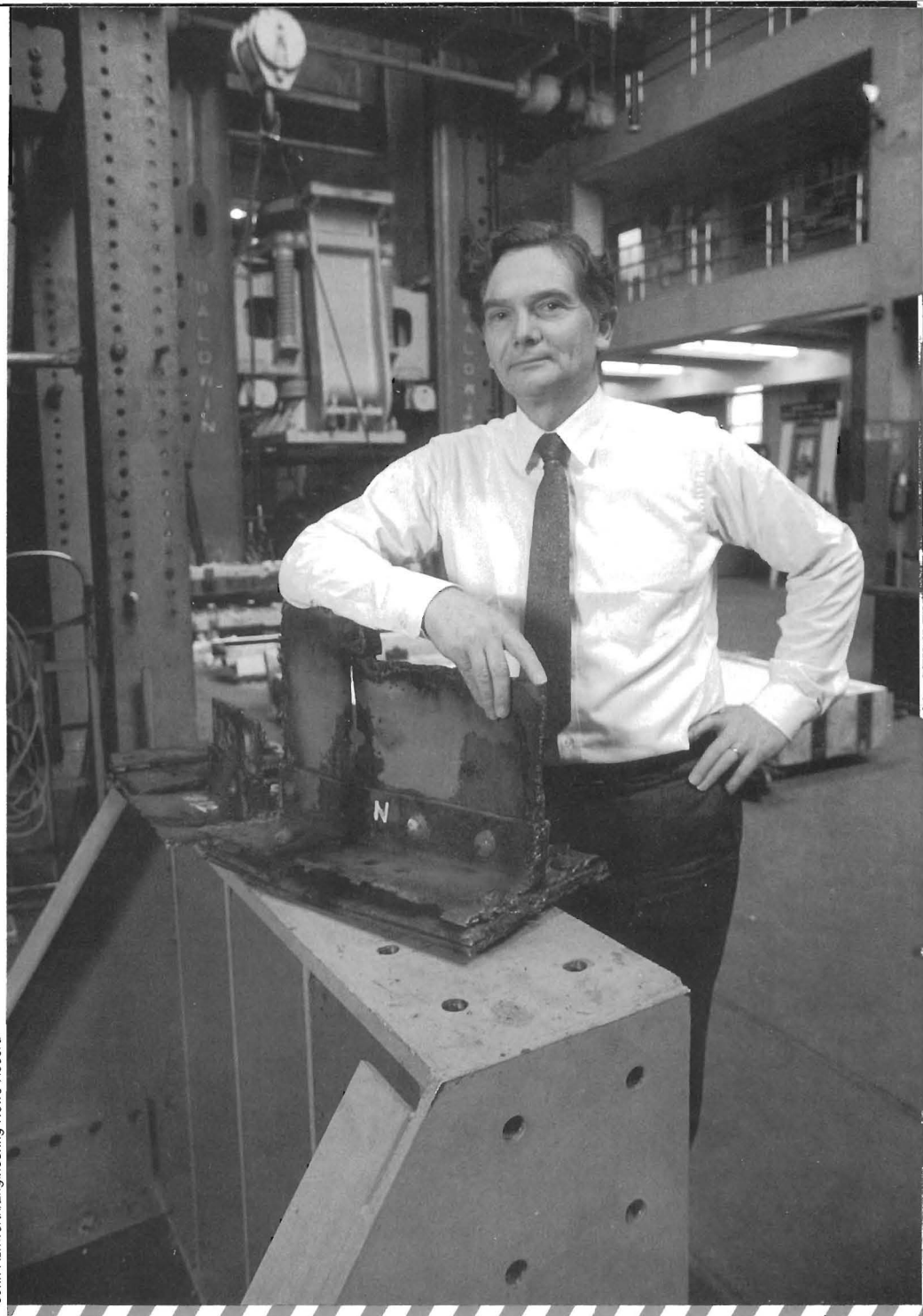
by Kerry Pechter

In July 1981, two elevated walkways in the Hyatt Regency Hotel in Kansas City snapped loose, spilling 150 people and a fatal shower of steel and glass onto a crowd of dancers below. The disaster took 100 lives and captured the country's attention for weeks. The cause: a faulty design in the rods that anchored the walkways to the ceiling.

In June 1983, a Connecticut Turnpike bridge slid off its pillars, pitching four cars into the Mianus River 70 feet below. Three people died; their families sued Connecticut for \$25 million. The cause: a critical steel pin snapped after slowly corroding for 30 years.

In January 1988, an Ashland Oil storage tank north of Pittsburgh burst open, jeopardizing the drinking water of communities in six states. The suspected cause: a flaw created in a cutting operation that might have cost \$300 to repair, had it been identified.

Although these tragedies occurred hundreds of miles and years apart, they are, in the opinions of some of America's best civil engineers, all part of a problem that surfaced a few years ago and refuses to go away: America's decaying infrastructure.



John Ashworth/Engineering News-Record

On the surface, every engineering disaster has its own unique proximate or immediate cause. Too many people were dancing on a fragile skywalk. Critical corrosion or other flaws were overlooked. But ostensibly unrelated construction disasters, some engineers now point out, often have much in common. Typically, somebody took a shortcut—either by using an improper grade of steel, or failing to inspect for rust, or gambling on an unproven technique—and it led them inevitably, to millions of dollars in repair bills, damage claims, and legal fees.

Correcting these malpractices, some observers now say, will require more than lawsuits and repairs. Last summer, after reviewing the declining share of American contractors in the world construction market, a panel of advisers to the National Research Council announced that those who run the domestic construction business must pool their know-how, spend more on basic research, and learn to make bridges, buildings, and other structures more reliable. Otherwise, they said, Japanese and European builders will grab an

Structural autopsy: *Engineering News-Record*, the *Time* magazine of the construction industry, in naming John Fisher, B.S.C.E. '56, Man of the Year in 1987 noted that he "has helped conduct post-mortems on nearly every major failure of a steel structure in the past 15 years."

even bigger slice of the international market and America's budget and trade deficits will keep ballooning.

The NRC is calling for nothing less than an American revolution in civil engineering, one, in fact, that they are already trying to ignite. This spring, on the campus of Lehigh University in Bethlehem, Pennsylvania, a new structures engineering laboratory that is part of the NSF Center for Advanced Technology for Large Structural Systems (ATLSS) will open its massive doors. On a thick concrete base enclosed on two sides by cellular concrete walls ranging from 20 to 50 feet high, engineers will assemble bridge sections, offshore oil rigs, and parts of skyscrapers. They'll subject them to computer-simulated earthquakes, tidal waves, and truck traffic, to see how well they stand up. Then they'll apply what they've learned to the real world of girders and cranes. If all goes well, ATLSS (pronounced "atlas") will act as a bridge between town and gown, where professors and professionals will work to develop the technology

As an expert witness, Fisher developed a reputation for impartial judgment and a readiness to don overalls. Eventually, he realized flaws in individual structures reflected fundamental flaws in the construction industry.

that the construction industry will employ in the 21st century: automation, new materials, and computerized sensors, some that monitor the slightest hint of corrosion.

The director of ATLSS, and the man who convinced the National Science Foundation to fund the Center, is John W. Fisher, B.S.C.E. '56, the Joseph Stuart Professor of Civil Engineering at Lehigh and a 1987 recipient of Washington's Engineering Alumni Achievement Award. For 35 years, Fisher has been studying why large steel structures collapse. He

helped test the first interstate-highway bridges and has published two landmark books on metal fatigue in bridges. In the 1980s, he emerged as perhaps the top investigator of engineering disasters, including the collapse of the Hyatt skyway and the Mianus River bridge. ("He has done more than contribute to this field," said one associate. "He leads it.") In 1987, he won the engineering world's version of an Oscar when he was named "Man of the Year" by *Engineering News-Record*, the McGraw-Hill weekly magazine for the construction industry.

Now Fisher has taken on a new role—that of an industrial Paul Revere. He is warning American contractors that foreign contractors are coming. Unless America's builders invest in research and development, Fisher predicts, they'll keep erecting unreliable projects that corrode or collapse long before they should. Already, foreign-based firms are outbidding American companies for some of the most challenging and lucrative building contracts, both in the U.S. and abroad. That trend will continue, he says, until we change our ways.

In the low-profile world of civil engineering, John Fisher is a celebrity. Instead of a cubbyhole office in a university hall, for instance, he and his staff occupy a spacious suite of carpeted rooms behind double glass doors, in an

industrial building set on a ridge high above the Lehigh Valley in eastern Pennsylvania. The offices, painted a soft beige, have picture windows that overlook a grassy courtyard. The place looks like an executive suite from the 1950s, which is what it was until Bethlehem Steel sold the building to Lehigh in 1986.

The executive decor fits the inhabitant of this office, because the tall, energetic, wavy-haired Fisher has the hectic schedule of a corporate CEO. His free moments, squeezed between lectures,

meetings with corporate clients of ATLSS, trips to Washington, D.C., and the graduate seminars he still teaches, are so rare that his assistants were amazed when he set aside an entire hour (exactly one hour, in fact) for his alumni magazine. One day last fall, as a wall clock ticked off the minutes and a Sony microcassette recorder listened, Fisher talked about his life, his work, and his mission.

For one thing, there's his remarkable sense of timing. The son of an Army Corps of Engineers builder, Fisher had the good fortune to live through, and the talent to contribute to, what was perhaps the most dynamic period the American construction business will ever see. He was born in Scott City, Missouri, in 1931. His family migrated from one engineering project to another. (On December 7, 1941, they happened to be in Pearl Harbor, Hawaii.) He finished high school in Missouri, then entered and quickly dropped out of college for lack of money. After a stint as a deckhand on the Mississippi, he married, entered the Army, and served as an officer in the 4th Combat Engineer Battalion in Germany. Mustered out in 1953, he entered Washington University to study civil engineering while his wife, Nelda Rae, worked for the St. Louis branch of the F.B.I.

Like the other veterans in his class, with whom he still stays in touch, he was older, more mature, and more focused than the average freshman. "I didn't have the classical relationship with the campus," he says. "I was married, I wanted to get finished, and I was probably more dedicated to getting the job done than most."

Fisher's engineering professors recognized his talent and steered him toward a graduate program at Lehigh University, an engineering school with a special emphasis on steel and steel structures. At Lehigh, Fisher was assigned to a research project on the properties of welded connections in steel structures. It was a random assignment but a lucky one, because it would make him an expert in the connections that bind one piece of steel to another. When buildings and bridges fall, they often come apart at the "seams," and no one can assess a structural failure better than a connection specialist. "I just happened to be selected for this project," he says, "and in one way or another I've spent the last 30 years working on connections."

In 1958, his work in connections

earned him a job on a project that would mark a turning point in the evolution of American highways. On a test track in rural Illinois, soldiers were driving convoys of Army trucks over prototypes of highway bridges, 16 hours a day for two years, to assess the effect of long-term truck traffic. Until then, engineers knew how to calculate a bridge's maximum stationary load capacity. But no one had measured a bridge's capacity to handle the passage of millions of cars and trucks, each weighing much less than the maximum load. The experiment showed for the first time that repetitive light loads eventually cause metal fractures. "It was unknown at the time. Engineers came from all over the country to see it," recalls Ivan Viest, the head of the project.

By the late 1960s, Fisher again found himself at the crest of a major engineer-

reputation for impartial judgment and a readiness to put on overalls, dangle over the side of a bridge, and inspect broken welds firsthand. Over time, he realized that the flaws he was observing in individual bridges and buildings reflected fundamental flaws in the practices of the American construction industry. He soon became the bearer of an unpopular message—a message that, even coming from someone with his degree of peer respect and credibility, has largely been ignored.

Fisher's message is that construction catastrophes and infrastructure decay are more common and less accidental than they may appear. Corrosion, faulty welds, and human error are merely the superficial causes of disasters like the Ashland Oil tank rupture. Deeper causes exist, and it is these fundamental

bidder, for instance, forces contractors to cut every possible cost, and research funds are often the most expendable. The American building industry also suffers from fragmentation. Designers, owners, and builders seldom work for the same company or share their knowledge, and the responsibility for research tends to fall through the cracks. Also, contractors have no more incentive to perfect their products than automakers have to build the 100-mile-per-gallon carburetor: obsolescence and infrastructure decay create new business.

Instead of investing in long-term research, Fisher points out, American engineers have institutionalized some questionable shortcuts. Designers, for instance, often extrapolate the strength or flexibility of a small steel structure to a large one to avoid testing a full-scale design prior to construction. This practice begs for trouble, and often finds it. "Engineers assume that some small lab experiment can be extrapolated to a full-scale component. This is accepted as biblical tablet, but increasingly we see problems surfacing because of it," says Fisher, citing the cracking of a large steel truss in the roof of the Orlando Civic Center in 1983, which required \$4.5 million in repairs after a bitter lawsuit.

Computers, in addition to the numerous benefits they offer to engineers, have created another shortcut that bothers Fisher. Today's designers, he says, too rarely leave their video terminals, put on overalls and hard hats, and examine corroded bridge girders up close.

"There's a big difference," Fisher says, "between how the designer idealizes the structure and how the actual three-dimensional structure behaves. Fifty years ago, engineers were forced to confront the problems that arose in building a real structure. We're seeing fewer and fewer of those kind of people."

The financial penalties for taking such shortcuts, however, often exceed whatever amount the original research might have cost. The lawsuits that now routinely follow construction disasters can consume years and millions of dollars. Last November, for example, the settlement of the suits stemming from the 1986 collapse of the L'Ambiance office tower in Bridgeport, Connecticut, in which 28 workers died, cost \$41 million; that figure was considered a bargain by all of the parties involved. Such lawsuits are now typical, creating a malpractice crisis in construction that parallels the medical malpractice crisis.

These flaws in American construction policy have been made embarrassingly

***ATLSS is where Fisher plans to address the industry's problems—
insufficient transfer of technology, a tendency to extrapolate from old data,
declining competitiveness. If R & D is Fisher's gospel, ATLSS is his church.***

ing trend. In 1967, 46 people died in the collapse of the Silver Bridge in West Virginia. This accident, coupled with the fact that an epidemic of cracking problems was breaking out in antiquated steel bridges nationwide, suddenly riveted the nation's attention on bridge fatigue. Fisher was writing a book—*Bridge Fatigue Guide*, published in 1974—that enabled engineers to calculate the effects of traffic on steel bridges. It made him one of the few engineers with pertinent expertise.

"When I first became interested in cracking in the 1960s, there weren't very many problems," he says. "In fact, I can distinctly remember being told by a number of bridge engineers that I was studying a non-problem. But beginning in the late 1960s, a whole series of bridge problems started to develop in the field. I happened to be in the right place at the right time."

By the early 1970s, Fisher began conducting post-mortems on bridge and building disasters. As a consultant to state highway departments and a frequent expert witness in damage suits filed against contractors, he developed a

problems that are slowly demolishing the productivity and the long-range competitiveness of the American construction industry as a whole. The central problem, he says, stems from the construction industry's reluctance to set aside enough money for research and the development of new construction technology.

"Our nation isn't investing sufficient funds in research and development," Fisher says. "We're content to do things on a trial and error basis, and that's an extremely expensive way to solve problems. Things don't work, and then we fix them. Research is done after the fact, or as a result of litigation. The Japanese are spending substantial amounts of money on automation, robotics, and new materials development. But in the U.S., we're driven by short-term problems. There's not much interest or focus on where we should be moving in the next century. We're focusing on today's problems at the expense of tomorrow's possibilities."

The roots of this self-defeating process are by now familiar to most engineers. The practice of awarding a construction contract to the lowest qualified

Built to last: Fisher's new forum, the ATSS Center, contains a concrete platform 40 feet wide by 100 feet long. Visitors are assured that, like the pyramids, it could last for thousands of years.

Above, Fisher surveys a universal test machine in another facility at Lehigh.

cent eight years ago; many of these projects use foreign builders. Ten years ago, the Japanese accomplished \$24 million worth of work in the U.S., and European firms completed \$1.1 billion. By 1983, Europeans did \$5.4 billion, and in 1985, the Japanese built \$1.5 billion worth of office towers, tunnels, and automobile plants.

A few uncontrollable factors, of course, have contributed to this trend. Foreign economies have now fully recovered from the destructive effects of World War II. The Saudi Arabians, no longer awash in petro-dollars, are spending far less on construction today than they did during the 1970s. But Fisher and others feel foreign contractors are overtaking American builders because they spend more on research and development. The figures are startling. According to Lehigh University economists, each of the five largest construction firms in Japan spends more per year on research and development than all of the 1.35 million contractors in the U.S. combined. American firms spend an average of four-tenths of one percent of their revenues on research, while Japanese firms invest an average of about one percent.

That investment has rewarded them handsomely. In 1986, for example, when IBM sought a contractor for a semiconductor factory in East Fishkill, New York, it chose Shimizu, a Japanese company, because of its research on the vibration-free, dust-free "clean rooms" that silicon chip production requires. Japanese companies captured only about two percent of the U.S. market in 1986. But they took some of the best projects.

Seen from this perspective, the shrinkage of the American construction industry parallels the shrinkage in the steel and automobile industries, and has similarly ominous ramifications. Construction is a \$360 billion-a-year industry in the U.S., accounting for 17 percent of all domestic employment. Anything that undermines that industry inevitably threatens the economy as a whole. "Experts in the field," says the National Science Foundation, "find the situation alarming."

That alarm, Fisher hopes, will force the American construction industry to

clear by the growing threat of competition from Japanese and European contractors. According to *Building for Tomorrow*, a book edited by a committee chaired by Fisher and published last year by the National Research Council, the share of the world construction held by American companies has slipped dramatically since 1980. In 1986, for example, American contractors earned \$22.6 billion in contracts for dams,

refineries, airports, and other large projects, a 40-percent decline from 1982. Also in 1986, foreign contracts accounted for 18 percent of the total billings of U.S. contractors, down from 35 percent in 1982.

At the same time, foreign firms have penetrated the U.S. construction market. In Los Angeles, 75 percent of the large downtown office buildings are foreign-owned or controlled, up from 25 per-

John Ashworth/Engineering News-Record

listen to his warning that the engineering policies of the past simply won't work in the future. To create a new generation of infrastructure that doesn't decay as fast as the last one did, and to reverse the deterioration of the country's leadership in the world market, he says, the nation's builders must commit more funds to research and development. And some of the most exciting research, he hopes, will take place at Lehigh University's new engineering laboratory.

The NSF Center for Advanced Technology for Large Structural Systems is Fisher's tool for coaxing the American construction industry into the 21st century. This is where he plans to address the construction industry's problems — the insufficient transfer of knowledge from universities to builders, a tendency to make blind extrapolations from old

sections, multi-story buildings, or offshore oil platforms here and anchor them at the dozens of "hold down" points that polka-dot the walls and floor. Hydraulic jacks, capable of applying loads of up to 500,000 pounds, will then be wedged between the test structures and the concrete walls. Orchestrated by computers, the jacks can generate patterns of stress that mimic the effects of a tidal wave, of wind shear, or merely of the patternless pounding of heavy truck traffic.

ATLSS's research agenda includes testing new technologies that could radically change the construction industry. Cost-saving automation concepts will be tested here, along with sensors designed to detect the first hints of cracking and corrosion on bridges. Multi-disciplinary teams of engineers, programmers, and economists will replace individual de-

panies with annual revenues of \$500 million or more. In 1987-88, 20 companies, including Bechtel National, Bethlehem Steel, and USX, contributed \$540,000.

The ATLSS staff is optimistic but still realistic about gaining industry participation. "Traditionally, these companies have not invested significant dollars in research. That's not where their money is," says William Michalerya, an ATLSS engineer who serves as liaison between the research center and private industry. "ATLSS is changing the traditional reluctance of the construction industry towards supporting research," Lehigh University President Peter Likins told the National Science Foundation in the school's recent application for renewal funding. "This is a major cultural change, it does not come easily."

In a worst-case scenario, private industry could fail to support the Center, and the National Science Foundation could withdraw its funding. Even if the Center retained government backing, its work would be sterile without the partnership of private industry. "If the construction companies buy into what we're doing here," Michalerya says, "and if they transfer our research results to the field, then this will be more than another 'ivory tower' project. It will be an effective center."

No one, however, expects the worst to happen. When Fisher, Lehigh University, and the National Science Foundation officially dedicate the ATLSS Center this June, all doubts will be muted and the facility's vast potential will be emphasized. If the Center succeeds, it could, in Michalerya's words, "Produce a significant change in the way construction is thought about in this country. For Fisher, the success of ATLSS would crown a remarkable career as professor, consultant, researcher, and policy adviser. For the construction industry, the Center could spark a resurgence in competitiveness and opportunity. For the rest of us, ATLSS might bring at least a wider margin of assurance that catastrophes like those of the recent past — the Kansas City skybridge debacle, the Mianus River bridge collapse, the Ashland Oil tank rupture — won't occur quite so often in the future. □

The top five Japanese companies each spend more on research than all U.S. contractors combined. Japanese firms captured only about two percent of the U.S. market in 1986, but took some of the best projects.

data, declining competitiveness and productivity, and a resistance to multidisciplinary planning. If R & D is Fisher's gospel, then ATLSS is his church. And whether or not this church fulfills his mission depends largely on his ability to win converts among America's largest contractors.

Housed in a hangar-sized metal building on a wooded mountaintop overlooking the Lehigh University campus, the ATLSS Center is a warren of offices tacked on to a dimly-lit factory the size of a college fieldhouse. Inside this vast empty space, construction workers have built a massive concrete platform, 40 feet wide and 100 feet long, with a 50-foot wall at one end and a wall of graduated height along an adjoining side. The concrete floor is six to 10 feet deep, the walls are three feet thick, and the concrete contains enough steel reinforcing bars to rival a hardened missile silo. Visitors — who have come from as far off as Yugoslavia — are assured that, like the pyramids, this "multi-directional loading facility," as it is technically called, could last for thousands of years.

If all goes as planned, engineers will assemble full-scale prototypes of bridge

signers, as a direct departure from the construction industry's usually fragmented planning process. Software that can store and transfer one engineer's knowledge to another will be designed and tested here. One ATLSS professor has already developed a software package (jokingly called "Fisher-in-a-Box") that contains Fisher's accumulated knowledge about bridges and puts it at the service of bridge inspectors.

But the ATLSS Center will do more than test the latest engineering technology. It will also test the willingness of America's big contractors to support R & D. The success of the facility, in the long run, depends on the strength of Fisher's connections with the country's major contractors. He must convince them to provide funding for ATLSS, bring their technical problems there, and adopt the new technologies that the research produces. Under the terms of its federal NSF grant, ATLSS must raise increasing amounts of money from private industry each year, with a goal of \$2.4 million in fiscal 1993-94. Most of that money will come from the 20 percent of all construction companies that perform 80 percent of the building in the U.S., and particularly the 44 com-

Kerry Pechter is a freelance business writer based in Allentown, Pennsylvania, whose work has appeared in Philadelphia magazine and other regional and national publications.



Herb Weisman

Solid foundation: Judy Lamb, A.M. '75, a lecturer in the Department of Education involved with the Post-A.B. Program for 16 years, communicates "a vibrant idealism. . . while her feet remain as firmly planted on the ground as any high-school teacher's must be."

Back to the Classroom

by George Hickenlooper

"I made a selfish decision," says Bob Menchhofer, former district sales manager for the Xerox Corporation in St. Louis, "and it was the smartest thing I ever did." He quit his handsomely rewarded executive position because he sensed it was time to reclaim the satisfaction he had known as a Florida high school teacher 20 years ago, when his salary barely topped \$6,000 a year. Menchhofer is in good company these days. More and more people who have achieved success in a variety of career

paths are finding themselves powerfully attracted to a new career in teaching.

"I raised two daughters—very smart girls. Now I want to share my love of reading with other young people the way I did with them," explains Sally Kopman, reflecting on her reasons for enrolling in Washington University's unique Post-A.B. Teacher Certification Program. Kopman graduated from Smith College in 1958, sold real estate for five years, and for the past 14 years served as the administrator of the St. Louis Psychoanalytic Institute, a job she

Post-A.B. Program participants are “intelligent risk-takers.” As older students, they display greater resilience, are more flexible, and have a deeper commitment to teaching.

is quitting this spring. “The world is changing so much, people are expected to have three careers before they’re through,” she says. “I want my third career to be teaching. It’s what I always wanted to do.”

The Post-A.B. Teacher Certification Program is designed by the Department of Education to meet the needs of adults with degrees, from the bachelor’s through the Ph.D., who want to make a career transition into secondary teaching but are unable to quit their jobs to go to school full time. Typically, they are people seasoned in the workplace, busy with careers in business, science, volunteer work, or raising families. The time comes when they feel a strong desire to share experience with the rising generation of young people—the need for “generativity” that psychologist Erik Erikson has characterized as defining advanced stages of human development.

Typically, students complete the Post-A.B. Program in approximately one-and-a-half years, with the majority of graduates finding employment in school districts. In addition to courses tailored specifically to their needs, Post-A.B. students take courses offered by the education department to undergraduates who are also preparing to teach. All concerned report the mixing of age groups an enriching experience.

In addition to the Post-A.B. Program, the education department also offers programs for preschool and elementary as well as secondary school teachers. There is also a part-time master’s degree program for teachers already in service.

“More and more people are finding teaching an exciting possibility,” says Bryce Hudgins, A.M. ’56, Ph.D. ’58, chairman of the Department of Education. “These are people who see an opportunity to make a real contribution. The increased publicity about education in the last few years has reminded people just how important the schools are. Requirements for graduation have been upgraded. There is an increased demand for teachers, particularly in science and mathematics. There’s a general

perception of teaching as a socially vital activity, and this is reflected in improved salaries.”

In fact, beginning salaries for secondary teachers have risen in the past five years from a national average of \$14,000 to over \$19,000, and teachers with Ph.D.’s can top \$40,000. The lure of the classroom has been felt throughout the country, with new curricula like the Post-A.B. Program springing up in state-run and private higher-education environments alike. A recent *Time* magazine article on the mid-career migration to teaching noted that in the 1987-88 school year, nearly 2,500 teachers in 24 states were trained through similar certification programs.

With courses offered in the late afternoon and evening through University College, the Post-A.B. Program is particularly attractive to working adults. “The counseling I’ve received from my University College advisers in the education and math departments has been really excellent,” says Janice Evans, who has a background in pharmacology but wants to teach mathematics. She feels that right now there’s a greater need for good math teachers than pharmacists. “The caliber of the teaching is the best in St. Louis,” she says.

Faculty members have similarly positive feelings about their students. “The Post-A.B. people are intelligent risk-takers,” comments Judy Lamb, A.M. ’75, lecturer in the education department. Lamb teaches general secondary methods, supervises student teaching, and has worked with the program for 16 years. Her background includes full-time high-school teaching at Parkway West, training anesthetists at Barnes Hospital, and teaching professional-growth training for businesses. In the classroom, Lamb communicates a vibrant idealism to her students while her feet remain as firmly planted on the ground as any high-school teacher’s must be. In her

course on the teaching/learning process in the secondary school, Lamb emphasizes the continuing need teachers have to think creatively on their feet. “Communications skills—or the lack of them—can make or break a teacher,” she says. “You’ve got to have a certain confidence and be flexible, and you can’t respond to whatever a student might say or do as if it’s personally threatening.”

Contrary to a popular stereotype, Lamb does not view the older teacher as more rigid and less energetic than the younger teacher fresh out of school. “Older adults have a lot of life experience and have often raised children of their own. Mature students are patient and committed, and able to handle ‘combat fatigue.’”

There is no question that for all its joys and rewards, high-school teaching remains—at least potentially—beset by various kinds of stress. Adults returning to the high-school environment, perhaps for the first time in decades, should be prepared for a scene far less pastoral than what they may remember. “Typically, there’s a tremendous diversity in the classroom,” Lamb says, “in the students’ needs and abilities, learning styles

and preferences, and levels of motivation.”

To help her students become effective classroom managers, Lamb spins out 60-second problem scenarios that demand on-the-spot solutions. “And there’s never just one right way,” she always stresses.

The need for these kinds of immediate problem-solving and stress-relief strategies led to a series of Saturday seminars that Lamb conducted for a year and a half.

“Beginning teachers need to be in a safe place where they can get peer support. Meeting to share their concerns and experiences, the participants were able to help each other find ways to work through the problems all beginning teachers face but are always perceived for the first time as uniquely personal.”

If there is a single common denominator that distinguishes the program, it is personal support combined with a

Combining personal support with professional commitment, the Post-A.B. Program retools a new influx of teachers.



Herb Weisman

commitment to professionalism. Menchhofer particularly liked being able to take courses in education theory and at the same time practice teaching. The practice teaching was structured so that student teachers took turns videotaping each other in the classroom, building files of accumulated experience that they could compare and learn from. Menchhofer felt the mutual reinforcement enabled him and his fellow students to leap ahead in their development as teachers. "The professional semester is quite unusual in schools of education," says Bob Menchhofer, "and it's very effective in teacher training."

Now, Menchhofer says, "Thanks to this program, I really see the difference in me as a trained teacher. I have some sense of what I should have been doing 20 years ago." Teaching English and coaching at Ladue Junior High School has made him, he says, a very happy and fulfilled man.

Peter Schmoeker, a recent graduate in his late 20s who teaches German at Pattonville Heights Junior High School, also feels pleased with the "very, very professional" orientation of the program and the concern that students are well placed in academically strong high

Smart moves: Bob Menchhofer left a position as sales manager with the Xerox Corporation to return to a career he'd begun almost 20 years ago. "It was the smartest thing I ever did," he says.

Now an English teacher and coach at Ladue Junior High School, Menchhofer says the Post-A.B. Program gave him "a sense of what I should have been doing 20 years ago."

schools, where they won't end up being disillusioned. Schmoeker, who started out as a medical researcher with a double major in biology and German, became interested in teaching when friends commented that he was good with children. He had reached a point in his career as a researcher where he realized he couldn't progress any further without a Ph.D. Rather than pursue a path of increasing specialization and, he felt, isolation from other people, he decided to change paths. "There's a different learning atmosphere in the Post-A.B. program," he says. "Students promote each other's success and cooperate with each other."

Dunnell Cohn, who holds an A.B. in chemistry from Swarthmore College, an A.M. in biochemistry from the University of California at Berkeley, and a Ph.D. in biology from the City University of New York, shares Schmoeker's sentiments. "I felt I was becoming very specialized and isolated from people in research. High school appealed to me because most

college teaching jobs are very tied up in research and I wanted to make teaching my central focus."

Cohn now teaches biology at Kirkwood High School. "So far, it's worked out pretty well," he says, noting that high-school teaching tends to be much more performance- than content-oriented because of the necessary emphasis on the development of young people. Like many others encountering the world of high school after working in other fields, Cohn is impressed by how demanding the job can be and how many hours a dedicated teacher has to put in. "The Post-A.B. Program is very realistic and well set up for this kind of transition," he says. "It gave me a sound theoretical understanding of how the schools fit into society and a chance to work on my methods before I started full-time in the classroom." □

George Hickenlooper is a freelance writer and editor based in St. Louis.



Building better bridges: John Fisher, B.S.C.E. '56 (foreground, right), is Joseph Stuart Professor of Civil Engineering at Lehigh University and director of Lehigh's Center for Advanced Technology for Large Structural Systems (ATLSS), the first engineering research center funded by the National Science Foundation focused entirely on civil engineering.

With Fisher, shown here inspecting the Williamsburg Bridge connecting lower Manhattan to the borough of Queens, are two Lehigh colleagues: (left) Hartley Daniels, professor of civil engineering, and (center) Alan Pense, acting dean of the College of Engineering and Applied Science. A story on Fisher and the ATLSS Center begins on page 26.

 **Washington**
WASHINGTON · UNIVERSITY · IN · ST. LOUIS

Washington University Magazine
Campus Box 1070
Washington University
One Brookings Drive
St. Louis, Missouri 63130-4899

Address Correction Requested

Non-Profit Organization
U.S. Postage
PAID
Permit No. 6238
Cincinnati, Ohio