Michigan Today

The 'Eureka!' Moment

Michael Marletta Describes
The Winding Paths To Scientific Discoveries

Michigan Today The University of Michigan News & Information Services 412 Maynard Street Ann Arbor, MI 48109-1399

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'So Young a Man . . . So Old a Head'

OHN DEWEY AT MICHGAN

THE UNIVERSITY, AND AN ICONOCLASTIC STUDENT WHO BECAME HIS WIFE, SHIFTED THE PHILOSOPHER AWAY FROM HIS

By Linda Robinson Walker

EARLY ORTHODOXIES

THE FIRST ANN ARBOR PERIOD, 1884-1888

Sometime in late 1884, in their boarding house on the northwest corner of Maynard and Jefferson where the Student Activities Building now stands, a man and a woman sitting across from each other at a table loaded with roast meat and boiled vegetables knew they were falling in love.

They were an extraordinary couple. John Dewey and Alice Chipman were 25 when they met. He was a new

instructor of philosophy, so green that when he made his first foray to a barbershop, he was mistaken for a freshman. When he left for the University of Chicago 10 years later he was, with William James, the leading philosopher of his time and had pioneered new theories in psychology and education.

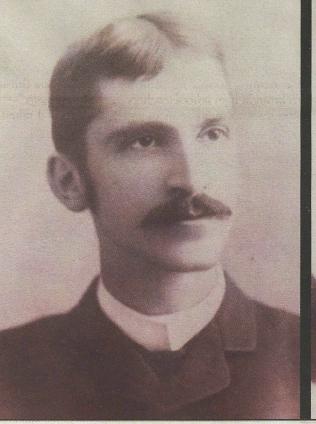
It was Alice Chipman who nudged him out of many of his orthodoxies. A woman who years later would invite her older children to watch her give birth so that they would understand the process, Alice dropped John straight from the ivory tower into the ethical and practical muddles of daily life. As Dewey himself put it after her death, "My wife used to say quite truly that I go at things from the back end. I'm hampered by too much technical absorption."

THE SHY VERMONTER

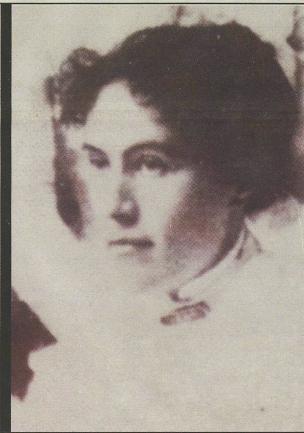
Dewey was born in Burlington, Vermont, on October 20, 1859, to Archibald and Lucina Rich Dewey. Archibald was an easygoing grocer and tobaccanist who

hadn't been to college. But Lucina's brothers had, and she determined that her sons would as well. Archibald was a traditional Congregationalist, his wife an intense evangelical who, according to Larry Hickman, director of the Center for Dewey Studies at Southern Illinois University, would greet people on the streets of Burlington with the question, "Are you right with Jesus?"

A shy child, for which he blamed his Calvinistic New



John Dewey in Ann Arbor, circa 1885



Alice Chipman in 1886.

England background, Dewey lived in his head. As Max Eastman, one of Dewey's students at Columbia decades later and a close friend, observed, "Ideas were real objects to him, and they were the only objects that engaged his passionate interest." His brothers and cousin formed his social world, and it was with them that, at 15, he entered the University of Vermont in 1875 in his hometown.

Following graduation in 1879, he passed three lonely

years in Oil City, Pennsylvania, and Charlotte, Vermont, teaching high school and reading philosophy. On the advice of a mentor with whom he'd been privately studying, he set his mind on a PhD at Johns Hopkins University and, borrowing \$500 from an aunt, went to Baltimore in 1882. There, he met two teachers who shaped his life. George Sylvester Morris, also a Vermonter, was the new head of the University of Michigan philosophy depart-

ment but lectured fall semesters at Hopkins. G. Stanley Hall, who taught in the spring term when Morris was back in Ann Arbor, had studied under William James at Harvard and was the first to receive a doctorate in psychology in America. At the time, psychology was so new a field that it embraced hypnotism, spiritualism and various pre-Freudian "mind cures," as well as empirical study of the human body. Hall, himself, had conducted extensive experiments on muscles.

Morris and Hall exerted diametric pulls on Dewey's beliefs. Morris represented traditional religious philosophy, while Hall's empiricism threatened any belief system grounded on faith. Morris won out, at first. It wasn't until Morris died that Dewey would cast aside his religious orthodoxy. But by then Dewey had already chosen a wife who, her daughter Jane Dewey would later write, "had a deeply religious na-

ture but had never accepted any church dogma. Her husband acquired from her the belief that a religious attitude was indigenous in natural experience, and that theology and ecclesiastic institutions had benumbed rather than promoted it."

When Dewey graduated from Hopkins in the spring of 1884, Morris offered him an instructor's post at Michigan at a \$900 salary. Dewey's family had been friends of

James Burrill Angell, the president of the U-M who had headed the University of Vermont when Dewey was a child. Dewey's letter of acceptance to Angell included greetings from his parents.

Dewey arrived in the fall, when Morris was again at Hopkins, and until Morris's return for the spring semester, Dewey constituted the entire philosophy department. As he sat at dinner with Chipman in their boarding house, his burden must have seemed heavy for such a young man, for a writer on a student publication, the Palladium, summed him up sympathetically: "I never knew so young a man with so old a head."

THE FENTON FREETHINKER

Chipman, whose given name was Harriet Alice, was born a few months before Dewey, in 1859, to Lucy Riggs and Gordon O. Chipman, a cabinetmaker whom President Franklin Pierce had named postmaster of Fenton, Michigan, in 1854. Her mother died when she was three, her father, when she was four. Alice and her sister, Augusta, were raised by their unorthodox grandfather Frederick Riggs and his wife Evalina.

A surveyor and fur trader with the Hudson Bay Company, Fred Riggs joined the Chippewa tribe, learned their language and staunchly defended the rights of Native Americans against the government. It was from her grandfather, who refused to belong to any church while contributing money to many, that Chipman acquired her independence of thought. (Her decision to marry a university philosophy professor was nothing like her sister's choice of Isaac Topping, who traveled with a circus-like road show, complete with a singing donkey. Augusta is said to have become a composer and writer.)

Alice Chipman graduated from Fenton High School in 1875 or '76 and took a year's worth of music courses at Fenton's Baptist Seminary. It is unclear what she did before coming to the U-M in 1883, other than teaching in nearby Flushing.

GETTING STARTED

The Ann Arbor in which John and Alice met was compact-about 9,000 residents and 1,400 students-and still rural; President Angell kept a flock of sheep on a nearby farm. In mid-October of 1884, the Argonaut, a student newspaper, reported a strange procession that had made its way down State Street: George Morris's cow, tied to a Shetland pony, was returning from summer pasturage.

U-M's Department of Philosophy, like most of its counterparts elsewhere in that era, had previously served mainly as a pulpit from which ministers dispensed spiritual guidance to students. Morris's appointment in 1870 was the first to a non-clergyman. He became chairman in 1881 and permanently cut his ties with Hopkins a year after Dewey's arrival. Morris was a kind-hearted man who was consistently named a favorite professor in the seniors' annual polls.

Dewey's first classes at U-M were Empirical Psychology, Special Topics in Psychology, and History of Philosophy. In the second semester his offerings were all in philosophy: Formal Logic, Greek Science and Philosophy, and Kant's Critique of Pure Reason. His teaching style was not without problems. "He would fall silent for several moments in the middle of lectures," says the Dewey Center's Hickman. "Some of his students saw it as incompetence, others as responding to their questions." In his earnest efforts to learn students' names, Dewey annotated his class rolls. Against one woman's name were the words "yellow feathers" for the hat she wore.

Dewey's classes fascinated students, who considered them exotic. The Argonaut recorded this exchange: "Dewey in Logic: 'Mr. H., give an example showing the fallacy of non sequitur.' Mr. H: 'A man is a tree; a stone is a house; ergo, a bird is a reptile.' Prof. Dewey: 'Very well, Mr. H., only it's rather an extreme case."

Dewey applied for membership at the Congregational Church, becoming member #959. He joined the Student Christian Association (SCA), one of the largest campus organizations and was soon conducting a weekly SCA Bible-study class. In his first Sunday speech before the SCA, "The Obligation to Knowledge of God," he asserted that "belief is not a privilege, but a duty-'whatsoever is not of faith is sin."

In the spring before Dewey came to Michigan, Morris had organized a Philosophical Society modeled on groups at Dublin, Cambridge and Edinburgh. At its first fall meeting, Dewey spoke on "Mental Evolution." Dewey's talks were not limited to philosophy or religion. His address to the Political Science Association on "The Rise of Great Industries" was an early example of his concern for the degradation of workers. He discussed the poetry of Browning before the Unity Club. His lifetime commitment to education led to Dewey's helping found in 1886 a Schoolmaster's Club, which brought high school teachers to Ann Arbor to hear lectures on such topics as memory,

imagination and attention. He also made university accreditation visits to schools in Fenton, Owosso and Muskegon.

In early 1885, Dewey began work on his first textbook, Psychology, which he finished the next year. During that period, he also wrote two noteworthy articles for the journal Science. The articles were among the first efforts at social science research, what Dewey called the "first fruits" of the "statistical method." He analyzed data gathered on the health of women college graduates in an effort to address scientifically whether or not higher education destroyed women's health.

Both the topic and the method were uncharacteristic for Dewey at the time. It suggests that by 1885 he was a feminist and one of the reasons may have been the influence of Alice Chipman.

ENTER ALICE, STAGE LEFT

In 1885, Alice Chipman's second year at Michigan, the Argonaut reflected on the 15th anniversary of the admission of women. It took pride that "American civilization and liberty" granted women the "opportunity to struggle for existence and for renown." It pointed out how helpful education was to the woman "who must go companionless through life," who might otherwise "sit idly in her chamber while the current of time rolled by." The article concluded that the female mind had proven to be "as capable of the reception of abstract truth as that of the male" and that coeducation had not lowered the "average intellectual capacity of [U-M's] students."

The philosophy department was unusually welcoming to women students. When Chipman graduated in philosophy in 1886, six of the department's 13 graduates were women, while only 15 of LS&A's 95 graduates were women.

John's shyness had always concerned his friends. Daniel Coit Gilman, the president of Hopkins, advised John not to be "so bookish; don't live such a secluded life, get out and see people." But John didn't have to go out to meet Alice, and they must have attracted each other almost immediately, for by March 1885 they were discussing marriage. "It was good luck-or was it good sense?-that John Dewey fell in love with such a woman. An adoring sissy might have left him half of what he did become," wrote Eastman. "In his mild and limp way ... he would stick to his own course of action, barring rational arguments to the contrary with the momentum of a mule. There was a full-sized moral and intellectual admiration between them."

Alice had taken courses in philosophy before Dewey



The parlor in Prof. George Morris's house, where the Philosophical Society met, was a second home for the Deweys. Ashley's Restaurant is now on the State Street site.

came, and took his courses as well. His admiration for her showed up in his letters to her over the summer of 1885 and at holidays. He imagined her "haunting the library"; he sought her help on his Plato course, asking her to "look up references and lay out the course generally in order to remove the burden from my mind."

Between them, Dewey and Chipman questioned many assumptions about women. Dewey's articles on women's health pointed to the need for exercise, despite what he called "the aversion of American women, especially the educated, to bodily exertion." At the time, the U-M's gym was not only inadequate for male students, women were allowed to use it only three hours a day. When its administrators urged more students to join—to persuade Lansing to fund a new facility—women responded enthusiastically. This alarmed what the *Argonaut* called "anticoeducationalists," who worried that the women would drive out the Rugby Association and gain "enough strength to be a prominent factor in Gym Management."

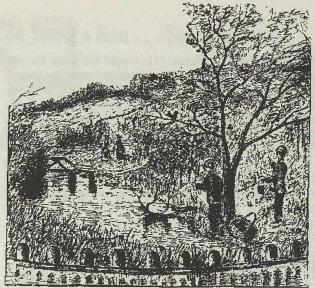
Fifty women organized to gain admission and to support the new building drive. If Alice Chipman was not one of those 50 women, it would be surprising. Although little is known about her before the 1885-86 academic year, her activities then show a determination to do what she could to make the University more welcoming to its women students. Her ire was raised in October 1885, when male students carved out a reading room for themselves in University Hall, the behemoth of a building on State Street that housed nearly all University departments. In their sanctuary, the men enjoyed their journals and caught up on papers from home. Women, reported the Argonaut, "are practically debarred." So Chipman and three friends won the use of the south dressing room and fitted it out as a reading room for women.

Chipman left the University another legacy: a unique sorority. Two traditional sororities were on campus in 1886, but what she and other like-minded women desired was an organization that was not a secret society. She and her friends found a model in a New York group called Sorosis, which claimed among its international membership such luminaries as Lucretia Mott, George Sand and George Eliot. The Michigan women obtained permission from Sorosis to create a college chapter. With an insignia designed by Tiffany, Collegiate Sorosis was born. The women named members of the faculty, "Sorosis brothers"; perhaps Dewey was among them. Chipman remained a member throughout her life.

As the end of the 1886 academic year approached, Chipman was completing her substitute-teaching of Higher English and German courses at Ann Arbor High School. She also prepared a talk for the Philosophical Society, "Pantheism and Modern Science."

Euchre and Purloined Picnics

Much of Dewey's social life revolved around the Student Christian Association, the Philosophy Society and the department. But there were lighter times, as well. As a Vermonter and "the latest immigrant," Dewey was welcomed into the New England Society by President Angell. Dewey's humorous talk noted "the freshman's explanation of how there was so much learning in college: the



This sketch of Dewey's and Kingsley's ill-fated picnic appeared in the student Palladium of 1886. The caption read: DUET. J. Dewey and H.H. Kingsley:

On the banks of the Huron River we asked a TOM-TIT, Where DINNER, OUR DINNER, OUR DINNER?
Do you know, Little Birdie, what's happened to it?
To our dinner, our dinner, our dinner?
Has a student conditioned in logic, we cried, or one t'whom a pluck in trig's been applied or is it some prof who a good joke has tried with Dinner, Our Dinner, Our Dinner?

freshmen brought knowledge there, while the seniors never carried any away."

A gleeful report appeared in the *Argonaut* that "at the progressive euchre party given at Miss Condon's last Thursday evening, our worthy instructor in Philosophy, Dr. Dewey, succeeded in capturing the booby's rattle."

Homer Kingsley, a new instructor in mathematics, also lived at the Jefferson Street boarding house, and he and Dewey became friends. They refereed a lawn tennis match together, and after the end of the 1884-85 academic year, they moved to 21 Packard Ave., near Madison, but continued taking meals at the Jefferson place. Kingsley and Dewey provided the campus a source of laughter, and the *Palladium* described the scene. In 1886, they escorted Chipman and another woman to the Huron River for a day of wandering and picnicking. When they grew hungry and went to enjoy their food, they found that practical jokers had already devoured it.

Graduation in 1886 brought its traditional whirl. Chipman sat on the committee that issued invitations to the Senior Reception and posed with the other "senior ladies with their hats." One thing she did not deign to do was follow the convention of providing her height, weight, and hair and eye color for the *Castalian* senior class summary.

'No Two People Were Ever More in Love'

Alice's graduation and John's promotion to assistant professor with the salary of \$1,600 allowed them to marry in 1886. The wedding took place July 28 in Fenton.

Years later, Dewey told Eastman, "No two people were ever more in love." On October 1, they were "at home" at 44 Thompson, south of Jefferson on the west side of the street. In their second year of marriage they rented 84 South State on the west side between Madison and Monroe.

Their first child, Frederick Archibald, was born in July 1887. With marriage and motherhood, Alice's life became almost completely private, lived out in the social exchanges of faculty members. Jane Dewey recalled that the Morrises' home was "the focal point of the Deweys' social life." The Morrises often entertained the Philosophical Society and other groups for discussion, music and refreshments. From time to time the Deweys also entertained one of his classes, so some intellectual life did come Alice's way. Besides continuing to be listed as a resident member of Collegiate Sorosis, there are no further mentions of Alice before the family left for Minneapolis in 1888.

His Pure Reason Is Critiqued

Dewey's professional pace did not slow. He continued to speak to campus groups and wrote a summary of Leibniz's philosophy for a series on German philosophers. In 1887, the *Argonaut* proudly claimed that Morris and Dewey were "recognized for their eminent ability in the philosophic world."

With the publication of *Bychology*, Dewey became a national figure, but not all the attention was approving. Dewey argued that the findings of psychology supported the tenets of religious philosophy, but did not buttress his argument with proofs. He took a similar neo-Hegelian approach in asserting that logic proved that God was a necessity. His failure to use empirical evidence to support his argument disappointed his old Hopkins teacher Hall, and Hall's old teacher, William James. Their criticism of his book, says Hickman (James is said to have sighed, "Poor Dewey," after reading the book), forced Dewey to re-examine his thinking and nudged him along the path toward pragmatism.

Meanwhile, Dewey continued to shape University life. In January 1888, he went to Detroit to make arrangements with officials for the founding of the U-M Republican Club, and he continued to be active in the Student Christian Association although Alice had never joined. As the allmale YMCA movement grew, more college Christian organizations were forced, in the *Argonaut's* words, "to expel their lady members." Dewey steadfastly backed the SCA's refusal to do so.

Between 1884 and 1886, Dewey was accorded a kind of honeymoon in student publications that let him slip through the nets cast for professors' absurdities. But in 1888, the attacks, called "grinds," began. The *Oracle*, the leader in the satire trade, reported that students were "vending the only authorized translation of Dewey's *Psychology* at fabulous prices." President Angell's son, James R., one of Dewey's students who would become his colleague at the University of Chicago, made a poetic assault, describing Dewey "with countenance changeless as stone,/ ever recalling the north frigid zone." To drive home the point, the anonymous author of *Sophster's New Dictionary* created this definition: "Dew(e)y.—Adj. Cold, impersonal, psychological, sphinx-like, anomalous and petrifying to flunkers."

In February 1888, Dewey announced that he was taking a position at the University of Minnesota. In response, the *Argonaut* accused the University of paying faculty too little and freezing all instructors at \$900, and all associate

professors at \$1,600 whether they had been at Michigan one year or all their lives. It hotly pointed out that extra money that had been set aside for faculty salaries had been spent on the boiler house instead. "How long," the Argonaut asked, "can the University stand the loss of such men?"

Although a brief biography in the Argonaut called Dewey's Psychology "one of the 'stiffest' text books in existence," it ended, "... his friends can wish him no greater success, than that his past may be prophetic of his future." In June, the paper gave notice of Dewey's last talk at the SCA on "Christ and Life," and noted, "This will be the last time that the University students will have an opportunity to hear him before he leaves for his western home and it is hoped that there will be a large attendance."

Why did Dewey leave? Money was no doubt an inducement; his salary at Minnesota was \$2,400. But he may also have found it necessary to put physical distance between himself and Morris, his beloved mentor and friend, in order to follow the new paths where his thinking was leading him. When he returned to the Michigan faculty the following year, he found the place to begin building a distinctively American philosophy.

Linda Walker '66 MSW is an Ann Arbor writer. She will complete our history of Dewey at Michigan in our next issue. She thanks the staff of the Bentley Historical Library; Larry Hickman, director of the Center for Dewey Studies, Southern Illinois University; Eileen Roddy of the Fenton Historical Society; and Louisa Pieper, historic preservation coordinator, City of Ann Arbor.

In fall 1885, John Dewey and Alice Chipman became founding members of the Samovar Club (below). "The Samovar" is the euphonious title of a new club of University people,' reported the Argonaut. 'It takes its name from the Russian tea pot around which the members will gather on the snug winter evenings of the coming season.' Discussing Turgenev and Tolstoy gave John and Alice more chances to be together. They were not the only couple in the Samovar Club to marry. Elsie Jones and Charles Horton Cooley (standing at left in back row) also married. Cooley was one of the founders of sociology. Dewey is absent from the year-end photo, but Alice, to the left of the samovar, holds out a cup to be filled.





THE INTELLECTUAL LEGACY OF JOHN DEWEY

ohn Dewey was America's most distinctive philosopher. Though he was a modest and unassuming man, his philosophical program ranged over the entire agenda of philosophical specialties, from the philosophy of science to the theory of knowledge, aesthetics, metaphysics, education and beyond.

No other philosopher in the United States has contributed so much to so many fields of philosophical inquiry. Moreover, his contributions were extraordinary; in each of these fields of inquiry he sought to fundamentally reorient philosophical work.

In the theory of knowledge, for example, he elaborated a conception of truth that turned on the uses of what we know, and in aesthetics he sought to turn inquiry away from abstract theory and judgment toward a socially grounded consideration of art.

Though a technically proficient philosopher, Dewey attacked the intellectual issues that joined philosophy to the great questions of everyday life. Dewey was a college professor, but he was a public intellectual. Unlike many of his academic colleagues then or now, he worked prodigiously hard to make his ideas count for America and ordinary Americans.

In addition to writing about issues that did count, he was active in the social and political causes that he thought important-including everything from opposing tests and vocational schools that would track workers' children away from brighter futures to a third-party presidential campaign in the 1930s-and worked hard for civil liberties and civil rights. He fiercely opposed Communist and other totalitarian regimes, and spoke out strongly against them at a time when such independence was quite unfashionable.

Dewey combined a penetrating intellect, a philosophical passion for the great ordinary issues, and extraordinary vigor. In his 80s, many decades after his wife Alice had died and only a few years before he would follow her, Dewey married a much younger woman. She had several younger children, and, while still carrying on a vigorous writing career, he found plenty of time to roll on the floor to play with the children. Though he broke a leg or hip in one of these playful encounters, it did not seem to slow him down.-By David K. Cohen, the John Dewey Professor of Education.

Try to do things you're not good at, **Bollinger advises Class of '97 By Mary Jo Frank University Relations**

is unusual to find people who believe genu-inely, deeply and authentically in the intrinsic value of what they are doing, Lee C. Bollinger told members of the Class of 1997 at his first commencement as president of the University Michigan.

"The academic world, for all its faults, still has that quality," Bollinger told a wet crowd in Michigan Stadium, "and I urge you to take that

image away with you." Bollinger's 20-minute address included advice, humor and literary anecdotes. The talk elicited smiles, chuckles and applause from an audience shielding themselves against the rain with everything from ponchos and umbrellas to plastic trash bags. An estimated 6,000 students received degrees

Shortening his speech because of the elements, Bollinger made several points:

•Remember your University. Asserting that Michigan's flat topography and sometimes harsh climate contribute to the University's distinctive personality and to the close relationships between people that make it unique, Bollinger said, "The University's immense size gives it an ongoing variety of creative activity that is unmatched by any other University, or place, in the country. And the friendly, honest relations of the people here at the same time are able to make that immensity intimate."

•Remember that you have had special opportunities "to make mistakes that you cannot so easily afford in the future." Bollinger said that he always has liked the view of life held by residents of a small French village in the Vaucluse, as described in the 1950s by Harvard sociologist Laurence Wylie. The villagers valued some wildness in youth because they felt that the adult who had been too good as a youth was not to be trusted because such a person was not "predictable." Bollinger said that he was "pleased to report to your parents and friends that our students, and especially the Class of 1997, are now entirely trustworthy and 'predictable,' though some, it is true, are more trustworthy than others."



A chilly rain, broken by sunny smiles.

that the world is not always interested in your well-being, at least not nearly to the degree that it has been until now. "I worry that too many graduates today are being lured into careers that are neither suited to them nor have the potential to develop their talents," he said, warning: "If a business is willing to hire you at a large salary, say over \$30,000 a year, to be a 'con-

· Remember

sultant,' given that you have virtually nothing to offer to anyone needing a consultant, look closely at what you are expected to give up. It may well be your soul."

•Try to keep the openness of experimentation that is the hallmark of youth. "Here," Bollinger said, "my best advice is to always do something, on the side, that you're really not very good at. As one grows older, we tend to lose our willingness to endure discomfort and failure. To avoid that you need to practice at being not very good." This is a major function of hobbies, he noted. Whether it's learning Russian or playing the cello, it should be something you have no chance of being very good at, he explained, because it's doing poorly that is important.

•You eventually will come to love us, your faculty, he predicted. "True, we are a somewhat comical lot. We take ourselves too seriously. Each of us believes that the little area of the world we study so earnestly is a matter of the highest importance," Bollinger said. But he predicted, "time above all else is on our side. For, as you lose your youth, which I know now seems hard to imagine (which is, actually, part of your charm), you will feel more and more nostalgic for the era of your lives you are just completing. The nicest part, for us, is that you will come to associate us with your lost youth, making your fondness for us increase.'

Prior to Bollinger's address, student speaker Jeffrey C. Keating, a political science and history major from Plantation, Florida, talked about lessons students had learned at Michigan, including the importance of demonstrating compassion for others and of investing in public education.

Four persons-Mary Frances Berry, scholar and public servant; Robert B. Fiske Jr., trial lawyer and public servant; Sergei Godunov, mathematician from Russia; and Eugene L. Roberts Fr., newspaper editor-received honorary degrees at the University of Michigan's Spring Commencement on a chilly and wet May 3 in Michigan Stadium.

> MARY FRANCES BERRY. **DOCTOR OF LAWS** 'In the vanguard of the ongoing struggle for civil

rights for women and persons of color for more than a quarter century.

The Geraldine R. Segal Professor of American Social Thought at the University of Pennsylvania, Berry earned a doctorate in history in 1966 and a juris doctorate in 1970, both from the University of Michigan.

Rising through the academic ranks, she provided national leadership in the emerging field of African American studies in the 1970s and went on to serve as chancellor of the University of Colorado, Boulder. A member of the US Civil Rights Commission since 1980 and currently its chairperson, Dr. Berry has been instrumental in expanding the scope of the bipartisan Commission's work, from leading efforts to deny tax credits to universities with histories of segregation to analyzing links between discrimination and poverty.



ROBERT B. FISKE

DOCTOR OF LAWS 'One of the nation's most experienced and re-

spected trial lawyers and a highly regarded public servant and prosecutor.'

A Yale University graduate and partner in the New York firm of Davis Polk & Wardwell, Fiske is a 1955 graduate of the U-M Law School, where he was a member of the Order of the Coif and associate editor of the Michigan Law Review.

Bollinger praises ignorance at Graduate Exercises

SERGEI GODUNOV, DOCTOR OF SCI-

'One of the founders of the field of computational fluid dynamics and the modern theory of conservation laws,' he has 'influenced the theory and practice of scientific computation as much as anyone in this

A member of the Russian Academy of Sciences and department head at the Sobolev Institute of Mathematics in Novosibirsk, Russia, Godunov was the first to recognize that computational methods must pay attention to the physics of a problem in order to produce meaningful results. He introduced into computational science a completely new style of thinking by using exact physical solutions as miniature building blocks.



EUGENE L. ROB-ERTS IR., DOCTOR OF LAWS 'Legendary dean of American newspaper editors, the

recognized voice of journalism's universal core values: accuracy, balance, and courage.'

Roberts chairs the International Press Institute, which protects freedom of the press, and is vice chair of the Committee to Protect Journalists, the guardian of reporters and editors worldwide.

A graduate of the University of North Carolina and reporter and editor at several regional newspapers, he joined The New York Times in 1965 and is now its managing editor. He headed that paper's coverage of the 1960s civil rights movement in the South and served as chief correspondent in Vietnam during the war.

He is a member of the Michigan Journalism Fellows Board.

e like to think about what we know more than about what we do not know," said President Lee C. Bollinger in addressing approximately 220 doctoral degree recipients and 1,100 master's degree awardees and their families and friends in an overflowing Hill Auditorium on May 2. "We admire ourselves for all the knowledge we have acquired; I want, in contrast, to praise our ignorance, and to maintain that ignorance-or becoming comfortable with our ignorance-often has as much a role in real human creativity, in new discovery, as knowledge or being proud about our degree of knowledge."

Citing examples of artists, historians, scientists and poets, Bollinger argued that "it is easy to rely on what we know" and to grow "slack in inquiring into new evidence which is sometimes right before our noses and ought to compel us ... to look at old evidence in a new way."

"Nurture an appetite for being puzzled, for being confused, indeed for being openly stupid, and that-despite what you might think-is very difficult, especially when your egos invest so heavily in your status as an expert," Bollinger advised.

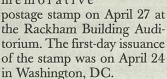
"We all know the cliché that a little knowledge can be a dangerous thing. It is also true that a lot of knowledge can be a dangerous thing as well." It's hard to break out of the bounds imposed by deep knowledge, he continued, hard to "reassemble the patterns within which we see the world. Yet, there is a moment typically when we cross from ignorance into knowledge in which there is the greatest possibility of reorganizing and reconceiving the knowledge we inherit. In that moment of freshness our ignorance is, in a sense, our anchor to the new truth or the new insight."

Citing Thomas Kuhn's observation in The Structure of Scientific Revolutions, that the ways in which some individuals create new paradigms from the same scientific evidence that others interpret conventionally must "remain inscrutable," Bollinger said that "what we do know, is that this occurs most frequently just at the moment of transition-and maybe partial transmission-from ignorance to knowledge. We are then freer to think revolutionary thoughts, before the chains of knowledge settle upon us. So what does all this mean for you? It means that there are many reasons for celebrating not only all the knowledge and expertise you have acquired but also the ignorance you take with you."

Bollinger said that he would be going too far if he asserted that the University was "leaving you with just the right amount of ignorance as we send you on your way today." But the University was proud, he concluded, "to send you off into the world as graduates of the University of Michigan, as likely as anyone in this country to use your ignorance as well as your knowledge for creative ends."

U-M celebrates Wallenberg stamp

he University of Michigan and the US Postal Service celebrated the issuance of the Raoul Wallenberg commemorative



President Lee C. Bollinger, Carl January and S. David Fineman of the US Postal Service, Sen. Carl Levin, Rep. Lynn Rivers and Ann Arbor Mayor Ingrid Sheldon spoke at the event.

Wallenberg, who graduated from the U-M in 1935 with a bachelor's degree in architecture, became a Swedish diplomat to Budapest. He helped save the lives of at least 20,000 Hungarian Jews during World War II by bargaining with Nazi officials, establishing safehouses, distributing false passports, disguising Jews in Nazi uniforms and setting up



checkpoints to avert deportations.

The Soviet Union arrested Wallenberg, who was then in his mid-30s, as a US spy in 1945. Rus-

sians today say variously that he died of a heart attack, was shot or was poisoned in 1947, but reports have persisted that he lived many years after that date.

Per Anger, former Swedish ambassador to Australia and Canada and, during World War II, a member of the Swedish Foreign Service in Hungary with Wallenberg, delivered the U-M's annual Wallenberg Address in 1995, which marked the 50th year of his friend's disappearance.

Anger said that Wallenberg may still be alive in Russia and challenged veterans of Soviet intelligence units and current Russian officials to release all of the available information about the fate of the world-renowned humanitarian.

More than 54,000 persons contribute to LSA's \$110-million campaign

he College of Literature, Science, and the Arts (LSA) at the University of Michigan surpassed its five-year Campaign for Michigan fund-raising goal of \$110 million on April 3.

Calling the success of the campaign "unprecedented," LSA Dean Edie N. Goldenberg said that to the best of her knowledge "no other public liberal arts college has ever met so large a fund-raising goal" and that the College was "extremely grateful to the numerous individuals, foundations and corporations who have made gifts, large and small,

The total raised as of April 7 was \$110,306,393. More than 54,000 individuals contributed \$71 million to the LSA campaign, and 1,078 corporations and private organizations contributed \$12.3 million. More than 420 foundations contributed \$26.7 million.

"Gifts from the faculty also have been an important element in our successful campaign," Goldenberg added. "Faculty contributed not only through the Faculty Fund (\$600,000) but they have contributed nearly \$8 million in gifts and bequest intentions. A generous faculty gift also will endow the Frederick and Lois Gehring Chair in Mathematics."

The gifts will support undergraduate education and LSA's wide-ranging Undergraduate Initiative, which seeks to enhance the undergraduate experience. The funds will support, among many other things:

- · Endowed scholarships (\$8.5 million) and off-campus study awards (\$800,000) for undergraduates and graduate student fellowships (\$9 million)
 - At least 20 new professorships.
- · Tisch Hall, the new humanities building, named in honor of alumnus Preston Robert Tisch, who made a gift of \$6 million.
- The new Gayle Morris Sweetland Writing Center (nearly \$5 million), named for the late editor and publisher of U. Magazine.
- · Priceless artifact preservation efforts in the Kelsey Museum of
- · Outreach activities such as the Department of Psychology's Detroit Initiative and the Saturday Morning Physics Program.
- The development of multimedia tools in the humanities through a gift from Time Warner Inc.

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ou might expect that Ellen Rontal '73-tear-gassed in South Quad during a wild protest demonstration in her sophomore year-would feel differently about her U-M experience than her father, Dr. Henry Gluck '51 Dentistry, who entered a politically quiet U-M on the GI Bill at the end of World War II; and still more differently than her daughter, Sara, an LSA junior confronting a global but jittery job market.

And yet, the Rontal-Gluck generations share a general enthusiasm, affection and respect for Michigan that speaks to a recurring experience—an intellectual and personal adventure—that seems to have shaped the core values of many U-M graduates over the decades. This, at least, is a preliminary finding of a Michigan self-study project dubbed MIMI-VUE (Michigan Millennium Values of/for a University Education).

Sara Rontal, one of the core team of undergraduates involved in the project, says that the U-M degree is especially prized by the graduates they've talked to. "Everyone we've interviewed so far is very concerned about the degree and the achievement, the time and hard work, it represents," she says. Her mother, Ellen, agrees, saying the family believes the University "provided a professional foundation and sense of discipline for the rest of our lives." And Dr. Gluck adds, "I am always proud to say that I am a graduate of the U-M Dental School."

Sara Rontal and her MIMI-VUE colleagues suspect that there are many U-M core values, and the students are now gathering data to discover recurring patterns. MIMI-VUE will involve hundreds of alumni who will share their most potent memories and reflect on what their campus years have meant to them over their lives. Nine members of the Rontal-Gluck family were interviewed during the project's pilot stage.

Diane M. Kirkpatrick, Thurnau Professor of the history of art, is directing the project with Jamy Sheridan, adjunct assis-



Sophomores Rachel Javorsky (left) and Sarah Stroup interview Alva Gordon Sink'23, co-founder of the Michigan League and widow of University Musical Society director Charles A. Sink.

tant professor and systems project coordinator at the School of Art and Design.

The pilot interviews, conducted last spring by Rontal and five other undergraduate researchers, were recorded via digital audiotape, videotape, photographs and video. The data will be stored on CDs and entered into a data base being constructed in a software program called Filmaker Pro.

To flesh out the personal histories, the students also will research the archives at the Bentley Library, pore over decades of *Michiganensians*, *Michigan Dailys* and alumni publications, read books on U-M history, and study U-M souvenirs and scrapbooks collected by alumni. Interviews will also be carried out with current and prospective students, high school counselors, faculty and staff.

In the fall, the pilot interviewers will help train 40 or so other undergraduates to conduct the intensive interviewing and information-gathering that will take place in 1997-1998.

Assisted by the undergraduates, local artist Zlata Baum and electronic musician-composer-programmer John Dunn of the School of Art and Design, Professors Kirkpatrick and Sheridan hope to mine the raw information to "isolate patterns through time that could be presented in a range of forms." The forms include printed matter, traditional and electronic works of art and music, and charts and graphs.

In addition to producing those artworks and texts, the team will construct a "Walking Tour of Michigan Values Through History" that will include maps, photographs and narrated video clips accessible on the Web. Parts of these works will be featured in a University Showcase on the Millennial Web Days, Dec. 31, 1999 and Jan. 1, 2000.

"In some ways, depending on the ultimate scale, the project could become a longitudinal ethnography of values," Kirkpatrick says. MIMI-VUE will offer insights into "the most important and central values" of the past—values that are likely to ensure "a vibrant University of the future," she adds.

How the research will shape up is unclear. "The bread is still in the dough stage or the flow stage," Sheridan explains, noting that his goal is to "upgrade the conversation about this University's values—not dictate what they should be but identify what they seem to be and how they are passed on and communicated over the decades.

"We are going to leverage the technology to develop and enhance a living conversation about values and, not incidentally, about the potential collision between technology and values," Sheridan says, "so that the students working on MIMI-VUE today will have an opportunity, through their identification of U-M core values, to address students and alums for generations to come."

Several of the first interviewees included two centenarians, Alva Gordon Sink, 101, co-founder of the Michigan League, and Bert Welcker, 100, secretary to the first four directof the Michigan Union from 1917-

tors of the Michigan Union from 1917-1966. Among others interviewed were several prominent alumnae, including former U-M Regent Trudy Huebner; Betty Vandenbosch, a longtime employee of the U-M Alumni Association; Catherine (Kay) Walz, co-founder of the Michigan League; and Nan Sparrow, former instructor in English composition and a major fundraiser for the League building. MT



Stroup and Javorsky interview former U-M Regent Trudy Huebner.

VIRTUAL JURSING By Cathy Mellett

magine how wonderful it would be for the relative who is several states away to be able to 'visit' with the terminally ill patient," says Adem Arslani. "What this could add to the quality of healthcare is phenomenal."

Arslani, a 1996 graduate of the School of Nursing, is working on the new technology that will make such vir-

tual visits possible.

Arslani began surfing the Web as a licensed practical nurse at U-M's Mott Children's Hospital to help provide parents of sick children with answers to the questions they asked about their child's illness. Having served in the US Army as a medical specialist/corps man, he was adept at manipulating data and the hardware and software necessary to manage them. Soon, he became interested in the new field of nursing informatics-the application of information science and computer science to the field of nursing.

Arslani's interest grew stronger when he took a professional development course from nursing Prof. Janice Lindberg and did a paper on nursing resources on the Internet. By the time he arrived at the School of Nursing, he was a natural for Nursing's UMTV cable TV system. He has worked in the program since 1995, wiring newtech hardware, learning quirky software programs and teaching faculty and students how to put it all together to teach and to learn.

Arslani eventually took engineering Prof. Lynn Conway's Visual Communications class and later became one of her teaching assistants. Working in the College of Engineering and having been in the military, he saw the synergestic effect that nursing and computer systems could have on one another.

Most of his work has involved linking up the software that will be needed to make connections like those between terminally ill patients and their families at remote sites. "Even with the support of hospice programs," he notes, "there is a need for friends and family to be there with the patient. Sometimes they can't be. That's where video conferencing like this comes in."

While much of the Nursing UMTV program is still in the "vision stage," Arslani has already had a taste of its immense possibilities. Last year, in a course, with the aid of Nursing UMTV equipment and the knowledge gained through Conway's course, he set up a special program for an 11-year-old girl fighting leukemia at U-M Hospital to visit with her classmates in Grand Rapids. In a local TV station's broadcast of the story, the girl is shown smiling and waving to her classmates from her hospital bed.

Through the use of Cornell University's free CUCME ("See You/See Me") videoconferencing software-the means of live videoconferencing over the Internet from anywhere in the world with a small videocamera-the girl saw and spoke to her classmates for the first time in two months. She then talked to the newscaster about how lonely she had been and how it hard it was to be in the hospital while her friends were back home.

With CUCME and other software, Arslani says, "We're moving towards a lot more home health care. With applications such as videoconferencing, a nurse can check on patients right in their own homes and review care procedures with them or even watch them as they do the procedure and correct them as they go. They can actually see the patient in front of them instead of having to rely upon the voice on the telephone and the patient's description to see what is going on."

Nursing Prof. Ruth Barnard agrees. "Just imagine how practical it would be to videotape the instructions your doctor gives you before you leave the hospital and take them with you," she says. The Nursing UMTV program is in Barnard's bailiwick and she sees bright things in its future, providing she can buy the equipment instead of renting it and have the staff to implement the possibilities she sees for this new technology.

All U-M students have access to UMTV in their dorm rooms. They can tune in to programs such as "All About Being a Bone Marrow Donor for Your Sibling," an edited rebroadcast of a recent University Health Forum, or "Adjusting to New Campus Life," in which one Nursing student interviewed seasoned students, counselors and health services personnel about health issues related to college life.

All Nursing classrooms are wired with UMTV capabilities which has made it easy for Nursing to use UMTV for coaching and will enable the School to offer distance learning programs in the future. Barnard's students have conducted interviews with Army captains, surgical nurses, and nursing researchers so that students have a better understanding of what it's really like to do those kinds of nursing jobs.

Barnard admits, "There are things you can teach and some things you have to learn by doing. And as nursing professionals, we know where there's value to be gained from using the new technology-and when you have to do things face-to-face."

"But UMTV is not just talking heads," Arslani empha-

sizes. "You can see close-ups of the instruments with a camera or through the Visualizer," a piece of equipment that operates like a 3-D projector, casting the image into the computer instead of onto a wall. "It's as interactive as you can get without being there. You can zoom in on what the nurses are doing. You don't have to interrupt. And in some cases you get a better view of what's going on and the nurse's role in the operating room."

A better view is very important in the field of nursing. And that's just what this Canton, Michigan, resident will get this summer when he starts his first job in the field of informatics nursing at a new 54acre Sisters of Mercy Hospital in Laredo, Texas. There, he will construct a large-scale clinical database that will help the stage for the new technologies yet to come.

Arslani is both excited and realistic about the possibilities. "Technology will eventually catch up and surpass this," he says, pointing to the array of equipment around him, "but UMTV gives us a head start on the applications that will take place when the Web is finally fully hooked up to TV."

Arslani uses televideoconferencing to discuss nursing care with a colleague. The software supports up to eight 'windows' to other

Cathy Mellett is an Ann Arbor freelancer.

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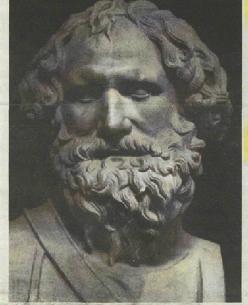
Adem Arslani '96 BSN got his first taste of teleconferencing with the US Army in Bosnia and Honduras. The National Guard put him through his initial nursing studies, and he was a member of **ROTC during his U-M** nursing program. He'll be a second lieutenant in the US **Army Nurse Corps** Reserves when he begins his pioneering 'nursing informatics'

job in Laredo, Texas,

this summer.

By Nancy Ross-Flanigan Photos by **Bob Kalmbach**

It's a myth, really. Scientific discovery is NOT sudden. It comes, if at all, along a research trail that meanders, even circles, through unfamiliar territory full of



lame it on Archimedes. He was the guy, remember, who leapt from his bath and ran dripping through the streets shouting, "Eureka!" after discovering the law of hydrostatics. Ever since that story got around, people have thought all great scientific advances happen that way. Well, maybe not always with public nudity. But surely with some startling discovery and flash of insight.

Not so, scientists will tell you. For every Eureka moment, there are countless hours of tedious research that seems to lead nowhere. Scientists navigate a trail that meanders into unfamiliar territory. circles back on itself, and may not end up where it seemed to lead. Their fellow travelers are not always who they'd expect to encounter on the road. Biochemists may cross paths with automotive engineers. A botanist's discovery may hold the long-sought key to some secret of human health. Sometimes, scientists must even travel back in time to move forward. Research results that lay forgotten for decades may make new findings snap sharply

Michael Marletta has traveled such a path. About 10 years ago, the University of Michigan biochemist found that nitric oxidebetter known as an ingredient of cigarette smoke and smog-plays an important role in the human immune system. His discovery helped ignite an explosion of research with important medical implications. But Marletta is the first to admit he couldn't have made the discovery without the work of others and that the road to his landmark study was anything but straight.

'Several Huge Surprises'

"When I think about what we started out doing and what we thought we would be working on and what it turned out to be, there were several huge surprises along the way," says Marletta. A chance observation about blood vessels, a student's bout with the flu, a pot of coffee, even hot dogs sizzling on the grill all figure into the story.

With so many on-ramps, intersections and back roads, it's hard to pinpoint exactly where the route to Marletta's discovery began. So let's just start with the hot dogs. In the 1970s, people started to worry about cancer-causing chemicals called nitrosamines. There was concern about exposure to nitrosamines in the environment, but also about the possibility that nitrite preservatives in hot dogs and other cured meats might be converted into nitrosamines in the body.

One scientist investigating this notion was Steven Tannenbaum, a toxicologist at the Massachusetts Institute of Technology. Through his own research and a review of nearly forgotten studies dating back to the early 1900s, Tannenbaum concluded that nitrites weren't the only culprits. Their benign chemical sisters, nitrates-found in drinking water, vegetables and many other foods-were being converted into nitrites by bacteria in saliva. The nitrites, in turn, were converted into nitrosamines in the stomach.

Mystery in Urinalysis

Tannenbaum began trying to find out just how much nitrate was being converted to nitrite. But he noticed something peculiar when he analyzed his experimental subjects' urine. He should have found less nitrate in their urine than in their diet, since some of the nitrate was being converted to nitrite. Instead, he found more.

Where was the excess nitrate coming from? Could the subjects' bodies be producing it? It seemed "inconceivable" to Tannenbaum, given what scientists knew-or thought they knew-about the formation and breakdown of nitrogen compounds in the human body. More likely, the nitrates were being made by bacteria in the subjects' intestines. But that possibility was ruled out by experiments on rats, done by one of Tannenbaum's graduate students.

Still, some were skeptical of the results from Tannenbaum's lab. "We were catching a lot of flack," he recalls. Something must be wrong with the experimental methods, critics charged. There was no way people—or rats—could excrete more nitrate than they took in. To gather more evidence, Tannenbaum's team put student volunteers on nitrate-free diets and checked for nitrate in their urine.

A Lucky Intestinal Bug

The lucky break came in one such experiment—although the young volunteer involved may not have thought it so lucky at the time. She came down with a nasty intestinal bug in the middle of the experiment, but dutifully continued to collect her urine for the good of science. And some good it did. "When we analyzed urine from this person, we thought someone had dumped nitrate into it," says Tannenbaum. "There was this humongous amount of nitrate."

Was the intestinal bug making the excess nitrate? Or was the student's immune system producing nitrate in response to the infection? Further experiments ruled out the bug and pointed to the immune system. But just how and where was the nitrate being made?

Enter Michael Marletta, who was then beginning his career as a biochemist at MIT and had become a sort of science buddy of Tannenbaum's. The two "just loved to talk science," and did so every morning, Tannenbaum recalls. Science may have been the glue that cemented their friendship, but coffee was the catalyst. Tannenbaum always kept a pot brewing in a little room off his lab. Marletta, a serious coffee drinker whose quarters were one floor below, often ran upstairs to grab a cup and chat awhile.

In their coffee room conversations, Tannenbaum kept

trying to get Marletta involved in the nitrate research. Marletta, who specializes in studying enzymes, was intrigued but wasn't sure how to tackle the problem. It was just too vast and unwieldy. "If you told me, here's an enzyme that nobody has ever characterized before, and it makes nitrate, I'd probably say, 'Wow, that's pretty cool, I'll work on it.' " says Marletta. "But if you tell me here's a human . . . and in this human of several billion cells of all different kinds, one or some of them are making nitrates, I'm not going to work on that problem, because I don't know where to start."

But once Tannenbaum's experiments pointed to the immune system, Marletta "had a handle to investigate the problem." Borrowing techniques from the field of immunology, he plunged into experiments on mice that showed exactly which cells in the immune system were making nitrate. It was the macrophages-immune cells that cruise the body, gobbling up bacteria and other foreign invaders.

What Was the Missing Step?

With the knowledge that macrophages were making nitrate, "we were really off and running," says Marletta. Over the next couple of years, his team focused on tracing the biochemical pathway through which macrophages made nitrate. Using "old-fashioned biochemistry" techniques, they figured out that the sequence started with the amino acid arginine, one of the building blocks of proteins. Arginine was converted to citrulline, another amino acid, and to nitrite and nitrate. But the team's results suggested they were missing an intermediate step in the process.

Around this time, scientists in unrelated fields were traveling down paths that would soon merge with Marletta's. But Marletta was as unaware of them as they were of him. In

he flu.

their quest to develop new blood pressure drugs, cardiovascular pharmacologists had been searching for something they called EDRF (short for endothelium derived relaxing factor). They didn't know what EDRF was; they

only knew what it did. Produced in the cells that line blood vessels, it acted on the smooth muscle that makes up the outside of blood vessels, making the muscle relax and the blood vessel dilate. When blood vessels dilate, blood pressure goes down. Clearly, EDRF was something drug researchers wanted to know more about.

EDRF had been discovered quite by accident in a Brooklyn scientist's lab. The scientist, Robert Furchgott, had developed a way to keep pieces of blood vessels alive in the lab, allowing them to be studied outside the body. He noticed that when the inner lining of the blood vessels was accidentally scraped off, it became impossible to make the vessels relax. Furchgott wrote up his observation, proposing the existence of EDRF and coining the term. His paper, published in 1980, set off the race to identify EDRF.



Michael Marletta won a MacArthur 'Genius' Award after his part in the discovery of the role of nitric oxide in the human immune system.

Unexpected Help From England

Marletta paid "zero attention" to the EDRF work at first-he had no reason to care about blood vessel research. But another scientist in England was paying attention. Salvador Moncada, then at Wellcome Research Laboratories, was intrigued by Furchgott's paper. Because he was immersed in his own research on prostacyclin-a hormonelike compound his research team had discovered in 1976he didn't join the search for EDRF right away.

Five years later, when Moncada wrapped up his prostacyclin research and started looking around for a new project, he remembered Furchgott's work and decided to follow up on it. In the process, he came across provocative new research on nitroglycerin, used for more than a century to relieve chest pain by widening blocked arteries supplying the heart. Scientists in Germany had discovered that nitroglycerin was chemically converted to nitric oxide in the body. It was the nitric oxide that dilated the arteries.

Nitric oxide made blood vessels dilate. EDRF made blood vessels dilate. Moncada began to wonder whether EDRF and nitric oxide could be one and the same. So did Furchgott and another researcher in the EDRF field, Louis Ignarro. But how could that be, the researchers all asked themselves. Nitric oxide, a toxic gas, was not the sort of chemical you'd expect the human body to make. Still, Moncada's experiments told him he was on the right track.

rivals.

surprises,

coincidences,

colleagues and

In lab tests, EDRF was destroyed by superoxide, a highly reactive form of oxygen. So was nitric oxide.

Applying Some Automobile Technology

To find out for sure whether the cells of blood vessel linings were making nitric oxide, Moncada needed a way to measure nitric oxide gas. He found just such a machine at the University of Surrey—a refrigerator-sized contraption designed for measuring nitric oxide in car exhaust. After having the machine altered to make it more sensitive, Moncada connected it directly to blood vessel lining cells in lab dishes and found that the cells, indeed, gave off nitric oxide.

At this point, the research trail became a sort of cloverleaf, with branches circling around and feeding into each other. Results from Moncada's work held a key Marletta had been searching for. And Marletta's work, in turn, gave Moncada the clue he needed to fill in the details of the EDRF story. During a layover at Denver's Stapleton airport, Marletta read Moncada's paper showing that nitric oxide was the elusive EDRF.

Suddenly, it was obvious to Marletta that nitric oxide was the missing piece in the macrophage pathway—the arginine-to-nitrate sequence. He couldn't wait to do the experiments that would confirm his idea, but it looked as if he might have to. Marletta had recently moved from MIT to the University of Michigan and hadn't yet set up his lab.

Equipment was still in boxes, and he hadn't built a team of graduate students and post-doctoral fellows to help with experiments.

Rushing to an airport pay phone, Marletta called his old science buddy Tannenbaum. "Steve, I figured it out!" he told his friend. "And I don't even have time to set up my lab and do the experiments."

By the next morning, Marletta was making plans to go MIT and do the work with members of Tannenbaum's team. There, working night and day for a week, using a monstrous machine like the one Moncada had adapted from the auto industry, Marletta confirmed that macrophages, too, produced nitric oxide.

'The Whole Field Exploded'

Meanwhile, Moncada, having figured out that blood vessels made nitric oxide, was trying to figure out how they did it. "Almost by chance," he came across Marletta's earlier papers on the arginine-citrulline-nitrate pathway. Using Marletta's methods, he found that blood vessel cells employed the same pathway. "Now, it was obvious we were both working on the same thing," says Marletta. And then, "the whole field sort of exploded." Taking a hint from research started by Japanese researchers and abandoned in the 1970s, Moncada and others went on to show that nitric oxide was also being produced in the brain.

'I'm My Own Grandpa'

Scientifically speaking, you could say Jeffrey Chamberlain is his own grandfather. The roots of one of his recent successes reach back to work he did as a University of Washington graduate student in the 1980s.

Chamberlain was interested in how muscle tissue develops, both in embryos and after birth. The process depends on certain genes being turned on and off at the right times. To better understand what happens, researchers wanted to isolate a muscle gene and study its on-off mechanism. As his dissertation project, Chamberlain isolated just such a gene, called creatine kinase.

Back then, "I wasn't thinking about diseases at all," recalls Chamberlain, who now does research on muscular dys-

trophy Michigan.

University of Washington scientists kept studying creatine kinase, but Chamberlain pretty much forgot about it, focusing instead on a gene called dystrophin. Defects in the

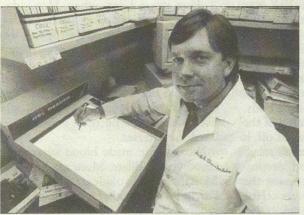
dystrophin gene cause Duchenne muscular dystrophy, one of a dozen or so forms of the disease. Replacing defective genes with good ones—an approach known as gene therapy—might be a way to cure the disease, Chamberlain and other scientists believe.

To that end, Chamberlain experimented on mice with Duchenne muscular dystrophy. The idea was to attach the dystrophin gene to a powerful genetic on-off switch. Once injected into mouse muscle, the gene would be turned on and start doing its job. But where to find a good on-off switch? It turned out that creatine kinase had one of the best around.

Chamberlain's experiments, reported in the journal *Nature* in 1993, were a success. "They told us two things," Cham-

berlain says. "Muscular dystrophy is a candidate for gene therapy, and the creatine kinase gene is a perfect way to produce dystrophin in muscle."

-NRF



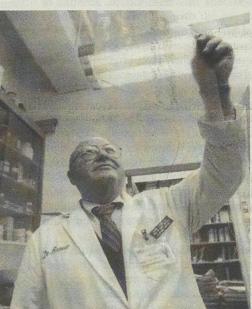
Jeffrey Chamberlain was surprised to find that his own research as a graduate student in the '80s helped him make a recent breakthrough that will help in the use of gene therapy to treat muscular dystrophy.

Hug a Sheep

Some grateful patients would just like to hug George Brewer for developing a powerful, safe treatment for the genetic disorder called Wilson's disease. Maybe they should also hug a sheep.

Early in this century, ranchers in Australia and New Zealand noticed that their sheep and cattle came down with a strange disease when they grazed on certain pastures. Two observations held clues

to what was causing the disease, but it took decades of scientific sleuthing to put the story together. The animals suffered from copper deficiencies. The pastures where they grazed had high levels of the element molybdenum in the soil. Someone eventually figured out that sulfur—a natural component of grass—was combining with the molybdenum to form a complex that blocked copper absorption. The complex came in several forms, but one, called



strange disease Scientific sleuth George Brewer had a hunch that a dition that inwhen they grazed disease in sheep could help him figure out a way to treat terferes with patients with excess copper in their liver and brain.

tetrathiomolybdate (TM), was the most potent.

"That's where we came in," says Brewer, who holds joint professorships in human genetics and internal medicine at U-M. Perhaps, thought Brewer and colleagues, TM would help patient's with Wilson's disease, a conthe body's ability to excrete copper. If un-

treated, the copper collects in the liver and brain, causing severe damage. By binding with excess copper in the bloodstream and in the intestinal tract, TM might prevent the copper from being taken into the body.

Good hunch. TM, it turns out, quickly lowers patient's copper levels without unpleasant side effects. Then zinc acetate, another drug pioneered by Brewer, can be used to keep copper levels in check over the long term.—NRF

"We now know that there are two principle functions for nitric oxide in biological systems," explains Marletta. "One is when it acts as a signaling agent—it's the way one cell talks to another cell." That's what goes on in blood vessels, in the brain and in other parts of the nervous system. Nitric oxide's other role is as a poison produced by the immune system to kill invading microorganisms.

Scientists now believe that nitric oxide holds promise for treating an assortment of medical conditions, including impotence, stroke, arthritis, Alzheimer's disease and diabetes. Already, knowledge about nitric oxide has led to treatments for high blood pressure in the lungs (pulmonary hypertension) and septic shock—a potentially fatal drop in blood pressure resulting from injury or infection. Thousands of research papers on nitric oxide are published every year, exploring both basic science and potential applications.

Brain cells and blood vessels. Hot dogs and flu bugs. Who could have predicted the common threads that would link them? Or that those threads would neatly tie together such diverse medical mysteries. Marletta couldn't have guessed, and yet he's not entirely surprised. He knows how science works.

"Ît's an unpredictable process," he says, "because we're asking questions about the unknown."

Nancy Ross-Flanigan is a freelance science writer who lives in Belleville, Michigan.

Vessels of Infiltration

A cancer researcher, a chemical engineer and a transplant surgeon all set the stage for David Mooney's work. Mooney, a U-M assistant professor of dentistry and chemical engineering, explores ways to create "bioartificial" tissues and organs made of living cells and biodegradable plastics.

His field, tissue engineering, got its start when Judah Folkman of Children's Hospital in Boston made a simple observation about tumors. Folkman noticed that they wouldn't grow much bigger than a pinhead unless they could somehow coax blood vessels from the body to infiltrate them. Then, supplied with nutrients and oxygen from the blood, the tumors could grow and spread throughout the body. Folkman started searching for the chemical signals tumors use to attract blood vessels. At the same

time, he searched for molecules that might block those signals and prevent blood vessel growth. Cutting off the tumor's blood supply, he reasoned, might be a way of controlling cancer.

Once Folkman found such molecules, he needed a way to get them into the body. He recruited chemical engineer Bob Langer, who developed biodegradable polymers (plastic-like materials) that did the trick.

Then came Joseph Vacanti, a transplant surgeon frustrated with the shortage of donor organs. He wanted to try creating new tissues and organs by transplanting living cells into the body, but he needed a way to get the cells inside and control what they did there. Langer's biodegradable polymers once again came to the rescue.

Now Mooney, who was Langer's student at the Massachusetts Institute of Technology, is applying techniques these researchers developed in his own attempts to create engineered livers, breasts, dental implants and other tissues. And Folkman's pioneering work is turning out to be of more than historical interest.

Creating an engineered liver or breast is a tough problem, in part because both

need a rich blood supply to function. "The critical question is how can we build in a blood supply and do it quickly," says Mooney. Those chemical signals that promote blood vessel growth—such a nuisance if you're trying to stop tumors from spreading—may be just the thing.



cruited chemical engineer Bob Langer, bioartificial tissues and organs made of living
who developed biocells and biodegradable plastics.

-NRF

No Dead End

ead ends and discouragement can force a whole field into dormancy for years, until something new restores its promise. That's what happened with the use of antibodies to treat cancer, first seen as a bright magic bullet, then scorned as an over-hyped disappointment.



Mark Kaminski has increased the potency of antibodies as a weapon against cancerous tumors.

Mark Kaminski's recent success using the method to treat a form of lymphoma is a sort of prince's kiss, reviving the field.

The idea of treating cancer with antibodies dates back to German bacteriologist Paul Erlich, whose pioneering studies of the immune system won him a Nobel Prize in 1908. An antibody's normal job is to seek out and disable bacteria, viruses, toxins or other foreign substances that enter the body. By attaching tumor-killing substances to antibodies, it might be possible to make the antibodies home in on tumors, delivering their deadly cargo without harming normal cells, Erlich thought. Other scientists tried to perfect the approach but had trouble producing pure lines of antibodies that would target only tumor cells and give consistent results.

A major advance came about 25 years ago from immunologists Georges Kohler and Cesar Milstein, also Nobel laureates. They found a way to make pure lines of antibodies, called monoclonal antibodies, in large amounts. These antibodies were so selective, they might be able to kill tumor cells themselves, without additional tumor-killing substances, researchers thought.

The next challenge was finding a target on tumor cells that the antibodies would recognize and home in on. That's where science hit a snag. No one could find a good target that appeared only on tumor cells, not on normal cells. The next best thing would be a target that always appeared on tumor cells, but was found on normal cells only during cer-

tain development a lastages. By aiming antibodies at such a target, relatively few normal cells would be affected. A protein called CD20 was just that sort of target.

At first, however, no one seemed

to realize how useful CD20 could be. It was the mid-1980s, and scientists who had been seeking a magic bullet were disappointed and "very, very depressed," says Kaminski, a U-M associate professor of internal medicine.

Denied funding to continue their work on monoclonal antibodies, many scientists drifted into other areas of research. But Kaminski, U-M colleague Richard Wahl and a handful of scientists at other institutions "continued to work stubbornly" on the problem. They began to realize that perhaps Erlich had been right all along. Antibodies alone might not do the job, but armed with a powerful tumor killer, such as radiation, they could be effective.

Persistence and scientific savvy paid off. Kaminski's group developed a treatment for B-cell lymphoma, the most common form of non-Hodgkin's lymphoma. The treatment uses anti-CD20 antibodies, tagged with radioactive iodine that can deliver radiation to tumor cells. Because CD20 is on virtually all lymphoma cells, but on only a small population of normal cells, the treatment spares normal tissue. The technique also stimulates the immune system to attack any remaining cancer. In initial trials on 59 patients who hadn't responded to conventional chemotherapy, 20 went into complete remission after treatment, with only minimal side effects. Ten of those 20 continue to be cancer-free anywhere from one year to more than 4.5 years later, with no further treatment.-NRF

TETTERS

Judaic History

IN YOUR coverage of Mendenhall's monumental work, Mendenhall is contrasted with "conservative Christians." But Mendenhall's conclusions are actually much closer to the text of the Hebrew Scriptures than is intimated.

Joshua's failure to eradicate the polytheists from Palestine, documented by Mendenhall, is recorded in the book of Judges as Joshua's successors continued to struggle against them for several more centuries. Mendenhall's assertion that the early Israelites were an ethnically diverse group which became unified is recorded in the Scriptures as several different groups of people were "naturalized" into the Hebrew group; the book of Ruth was written to offer one example. The book of Exodus (12:44, 12:48) offers other such examples. Mendenhall is heretical in disagreeing with traditional views, but his research squares nicely with the text. The true conflict is between text and the tradition which

claims to be based on it.

Andrew C. Smith '85

Ann Arbor

I HAVE read "The Language of the Desert" twice in the hope of remembering Dr. Mendenhall's views on those ancient peoples and their languages. As I approach my 89th birthday, I appreciate the University's continuing my education.

Virginia Schuberth Luchek '29 Prescott, Arizna

A Gaggle of Graduates

THE LETTER by Leland Wilbur Hall (Fall '96 issue) concerning three brothers who obtained degrees in three consecutive years prompts me to submit the record of degrees from Michigan earned by five "home grown" Finkbeiner siblings and two of their spouses.

The Finkbeiner siblings in age order include: Helen Jane Finkbeiner Mack, Howard F., Robert C., Herbert F., and Gerald D. Finkbeiner, all born and raised in Ann Arbor, as was Gerald's spouse Marilyn A. Haas. Jane's spouse, Lawrence R. Mack, was raised in nearby Plymouth, Michigan.

Howard and Robert served two years

(October 1954 - September 1956) in the US Army, which allowed Herbert to pass Robert in class standing and provided an opportunity for the unusual time compression of degrees received as listed below.

June 1954, Larry, BSE; June 1955, Larry, MSE; Feb. 1957, Jane, MS; June 1957, Howard, BBA; June 1958, Larry, PhD; June 1958, Howard, MBA; June 1958, Herbert, BA; Jan. 1959, Robert, BBA; June 1959, Herbert, MBA; Jan. 1960, Robert, MBA; June 1962, Marilyn, BA; June 1963, Howard, AM; Dec. 1963, Gerald, BBA; Aug. 1964, Gerald, MBA; Dec. 1969, Howard, PhD; Aug. 1976, Marilyn, MA;

It was special growing up in Ann Arbor and feeling connected to the University. Our family had frequent visits to the Museum of Natural History. I was twice a member of the Youth Chorus which was accompanied by the Philadelphia Symphony Orchestra at May Festival concerts in Hill Auditorium. My brother Howard and I served as Boy Scout ushers at Michigan Stadium during the 1947-49 championship football seasons.

As a member of the 1950 Ann Arbor High School Marching Band, I participated at half-time with the Michigan Marching Band performing the "Phoenix Show" which portrayed the "town and gown partnership" behind "peaceful uses of atomic energy, rising from the ashes of WWII."

Needless to say, Ann Arbor is a great city to claim as a home town and the University of Michigan is a great university to claim as one's alma mater.

Robert C. Finkbeiner '60 MBA West Palm Beach, Florida

Let's Add a 'Some'

WHILE READING the article "Don't Worry, Be Musical" in your latest issue, I encountered an interesting quote from Gustav Meier, former U-M professor of conducting and orchestra director, about Bobby McFerrin: "He's simply there to

make music, and that's very different from other conductors." Either Meier meant to say "different from *some* other conductors" or else he owes an apology to a list far too long to run in your publication of dedicated music-makers who have devoted their lives to the craft.

John Hillyer '58 Pacifica, California

Melissa Grego, the author of the McFerrin article, was a staff writer and an associate editor at the Michigan Independent, not the Michigan Daily, as we reported. "The Independent was founded by two students who left the opinion page of the Daily for reasons of political differences," she explains.—Ed.

I WOULD like to take Charles Baxter [the author profiled in "A Son of the Middle Border"—Ed.] to task for what I think is a poor choice of words in your Spring 1997 issue. Baxter: "I went to one of those lousy high schools in Minnesota. I hated it."

As an educator in one of Michigan's small high schools, I feel that he has demonstrated an arrogance and disservice to the hard-working and dedicated teachers who are working in high schools everywhere. I have met them. I would like to ask Professor Baxter if there was not just one of his high school teachers who opened up new vistas, new areas of knowledge or new concepts to him? Was there not one who at least caused him to question the world around him? Perhaps one who directed him to a book, play or essay which appealed to him?

The good professor should be more careful with his choice of words, especially if U-M expects to have any sort of working relationship with the very institutions that prepare its future students.

Donald Davenport '65 Almont, Michigan

Back to Square 1

READ "The Super Campbells" in your winter '96 issue. Reference was made to a recently released CD, From Square 1. I am interested in obtaining a copy, but there was no purchasing information included in the article. Would you please inform me how I may obtain the CD?

Thomas O. Johnson '80 MSW Fort Lauderdale, Florida We inadvertently removed that information. They may be reached at: Marquis Records, P.O. Box 309, Wilmington CA 90748. Phone: (310)

539-9201.—Ed.

Whose Tower That Was . . .

HARRY FORBES's letter in the Spring 1997 issue requries a follow-up. He speculates that Frost's poem, "Acquainted with the Night," if written in Ann Arbor, might allude to the Burton Tower. Since Forbes's class was '81, the Tower may seem ancient to him; but in fact it is too recent for Frost.

(I contributed a poster for a fund-raising contest for the Burton Tower in the '30s, when I was a student at University High School.)

When Frost was first in Ann Arbor, he lived in a house on Pontiac Trail. (In 1927, we lived farther out on Pontiac, and my father would point out Frost's house as we walked by.) Frost would have walked over the viaduct by the train station and up Division Street. Off to his right he would have seen the clock tower of the old courthouse. The building sat in the middle of the block, with grass and trees around it, as I remember. The present courthouse was built surrounding the original structure, which was then torn down.

I have my own memory of Frost in Ann Arbor. I was in the seventh grade at University High School (1932-33) when he gave a talk to the students at an assembly program. It was a thrilling experience for me to hear the poet himself recite the lines I knew so well from "Stopping by Woods on a Snowy Evening," "The Runaway," and "The Road not Taken."

My father, Fred G. Walcott, later headed the English department at University High School. He was a professor in the School of Education and earned all three of his degrees at Michigan.

Virginia Walcott Beauchamp '42 AB; '48 AM

Greenbelt, Maryland

A Rose By Other Names

AS DIRECTOR of development at the University of Massachusetts, I read with great glee the wonderful article on the complexity of address labels in the most recent issue. Somehow, it's comforting to know the problems are endemic! Scary, too. And of course, ironic. I am now separated, so my mailing label needs adjustment!

Mahala Kephart '78 Music Amherst, Massachusetts

I WAS pleased, and my wife was delighted when you added the "and Mrs." to the address. I cannot understand the people who were annoyed by this. Your article on labels implied that you often make mistakes, but I have been impressed by your accuracy. In the 57 years since I graduated, I have moved at least ten times and, I'm sorry to say, never think to tell you about this, yet my issues of MT always come immediately to my new address. I've wondered for years how you manage to do this. Please tell me your secret. And how could you be sure there was an "and Mrs"? The odds? Spies? [Ahumi Records gets the credit—Ed.]

C.W. Smith West Columbia, South Carolina

I HAVE chuckled—chortled even—while reading letters from non-Michigan spouses of Michigan graduates complaining about

mail addressed to both of them. I don't recall reading about a graduate of *The* Ohio State University being included in the address of a graduate of the University of Michigan. The writers do not know what trouble is. My wife, a graduate of *The* Ohio State University, is included in the *Michigan Today* address labels. If she gets to the mail first, anything addressed in that manner is immediately deposited in the trash. I'm sure I've missed a lot of good news. Who *did* win last year's OSU/Michigan football game anyway?

Let me tell you about trouble! My wife's sister, brother and brother-in-law are graduates of The Ohio State University; my high school band director was the very first sousaphone player to dot the "i" in Script Ohio; the owner of the local men's store has dotted the "i" twice; the optometrist who approaches my eye with a laser beam has scarlet and grey wall paper and nine pictures of Woody Hayes in his office; my eye surgeon approaches my eye with an Ohio State scalpel; my dentist, a graduate of Notre Dame and Ohio State, delights in doing my root canals without the benefit of Novocain (he keeps saying he forgot); my poor dog is operated on by an Ohio State vet; the president of my Rotary Club is an Ohio State grad; the last District Rotary convention was entertained by The Ohio State Alumni Band; my Ohio State lawyer blamed me for the loss of my last case; my next door neighbor is president of the Érie County Ohio State Alumni Assn. and has a buckeye tree planted close to the property line, so I have to pick up those horse chestnuts or risk wounding the above mentioned dog when I mow the lawn; my Ohio State wife denies me conjugal visits (of course we don't share a bedroom).

There's more, but I'm advised that space is limited. Trouble? Ha!

Robert W. (Bill) Hess '46 BSE, '50 JD Huron, Ohio

IN DESCRIBING your woes with alumni names, you suggest that names and addresses can be corrected by contacting the Office of Development in "any of the four ways mentioned below": Phone, E-mail, Fax, Web. Perhaps I am the only one of the 400,000 living alumni with no fax, no computer and no inclination to spend telephone toll call money to hear a computer tell me "if you are calling from a touch tone telephone, press one, now." So I am mailing this to your publication address. I really don't care what you call me, but it is a mystery (unexplained by your article) how you could include Rosemary's name with mine. True, she is my bride of 52 years, but she is an MSU grad and never got closer to the U of M campus than the Zeta Psi house.

> James Jackson '47 New Smyrna, Florida

HELLO! delightful story/article in the last issue by Douglas Moffat. Glad you have figured out that we do not need two of everything—there are so many University publications that I think something comes virtually every day. *Michigan Today* is consistently interesting, though I confess that I never seem to have time to read much of it before my husband squirrels it away. Thanks for your sensitivity to the name thing.

Nancy Heiber Ravin '66 Toledo, Ohio

JUST WANT you to know how very much I enjoy *Michigan Today*. Every issue has a surprise; an article that I never would have picked up otherwise. Even the most esoteric prove to be worth exploring. My only criticism: it doesn't come out often enough.

Martin Appel '49 BBA Santa Barbara, California

THAT *Michigan Today* that you put out is a fine piece of work.

John Sharkey Washington, DC

Liberty Street . . . Memory Lane

I READ Michigan Today, which is addressed to my sister and brother-in-law Mr. and Mrs. Daniel Sing, and found it interesting and informative. My parents, Charlie and Antosha Hoy, owned a restaurant at 613 E. Liberty St. back in 1916 to 1928, if my memory serves me. The store now sells lovely leather articles. I discovered Liberty Street had changed so much since I was a child playing on that street many moons ago. How many remember the free movies given when Michigan won an important game, when Angell Hall was being built, when Speddings and Starbucks and Mrs. Ganzhorn's rooming house were just a few doors away from Daddy's restaurant? And the old Orpheum Theater was not far away?

My sister Ruth Sing is prodding me to write a story of old Liberty Street, when produce was delivered around the back alley to Daddy's restaurant. Or how the Michigan Band would practice all the way down to Main Street, marching in their true maize and blue colors?

Thank you in advance for the next publication of the interesting *Michigan Today*. I might add that although I have been a resident of Columbus since Dr. Fung (Med '45) began his residency here at OSU, we always managed to take our six children to see a Michigan game in Ann Arbor.

Frances Hoy Fung Columbus, Ohio

Editor's Note: Letters may be abbreviated or edited for reasons of space, taste or accuracy.

DEAR READERS:

For more than a decade, *Michigan Today* has served as a window on the world of the University of Michigan for all U-M alumnae and alumni, as well as for non-alumni friends of the University. We cover U-M personalities and progress; report on campus events and controversies; and keep alive University history and traditions. We give voice to our students and graduates to reflect on current events and reminisce about their days on campus. We profile outstanding students, graduates and professors in the humanities, arts, social sciences, science and the professions.

A recent readership survey indicates that 88 percent of you are reading *Michigan Today*. We believe it is an important link between you and the University, and we would like to continue sending it four times a year free of charge to all U-M graduates and others who care about the University of Michigan. But at a time when budgets are tight and all in higher education are being asked to do more with less, we must take special steps to meet rising costs, especially those for postage and paper. In addition, while the majority of our readers indicated they are satisfied with the appearance of *Michigan Today*, we would like to improve paper quality and readability.

Accordingly, we are creating a voluntary subscription program. By making a contribution of \$50, \$25, \$10 or whatever you feel is appropriate, you will help ensure that *Michigan Today* can continue to reach a wide University audience in the most appealing manner possible.

All donors who participate in this program will become members of the new *Friends of Michigan Today* group. By making your contribution now, you will become a Charter Member of the *Friends* group. *Friends* will be recognized in future issues.

Please fill out the form below and send your tax-deductible donation to *Michigan Today*. We thank you for your assistance and, as always, welcome your feedback about *Michigan Today* via mail at the address below, phone at (313) 647-1838, fax at (313) 764-7084 or e-mail at johnwood@umich.edu.

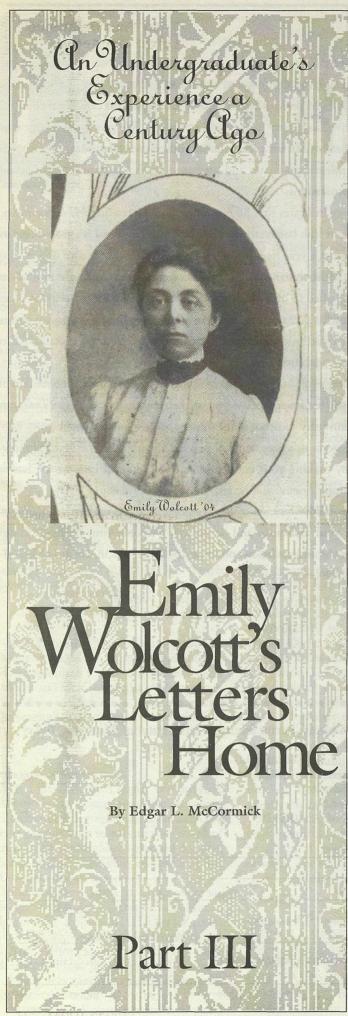
Sincerely, John Woodford Executive Editor Yes, I want to be a Charter Member of Friends of Michigan Today		
Name:		
Address:		
City:	State	Zip:
U-M graduate? Yes No		
U-M School(s)/College(s):		Year(s) of degree(s)
Comments? Please attach them on a sepa	rate paper.	

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his is the last in our series based on the letters of Emily Wolcott '04, who enrolled in September 1902 and wrote home to her mother and sisters in Tallmadge, Ohio, almost weekly. (Our Fall 1996 and Spring 1997 issues carried the first installments.) Wolcott entered U-M as a junior, having completed two years at Mount Holyoke College and taught school for 10 years before entering Michigan at 36. Her maturity as an observer is our good fortune as we ponder the similarities and differences between University life then and now. We resume McCormick's account as Wolcott is beginning her second semester at Michigan.

In her senior year, Emily Wolcott kept her family informed about her experiences during a year when her reach surely exceeded her grasp. Illness kept her from finishing the 1903 fall semester and plagued her through the following spring.

She had come back to Ann Arbor in later September from summer at home and in New York to "quite a nice little room" on the third floor of a "Jewish, very cleanly kept house" on what was then Thompson Court, since obliterated by West Quadrangle.

Planning to finish work on a degree that would provide the breadth and "pedagogy" needed for high school teaching, Wolcott signed up for courses in calculus and psychology besides the seminar she had been looking forward to all summer, Fred Newton Scott's "Interpretations of Literature and Art," in which papers were to be written and read by every

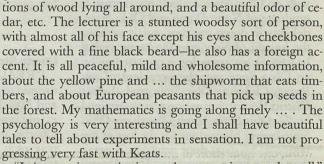
class member-hers on Keat's "Ode to a Grecian Urn."

Every morning, she studied calculus "with the engineers because they have better instruction than the 'Lits.'" There were 28 in the class, four of them women. After giving instructions at the board, Prof. Alexander Ziwet walked through the room, helping the students with problems, an-

swering questions "you are almost afraid to ask." Wolcott liked his method: "This way you get just what you want of him, addressed to yourself alone ... but woe to them who do not know their algebra!"

To spell herself, Emily took a twohour course in forestry that required little outside work. On Oct. 18 she described it as "such a rest and a change":

The room looks and smells like a great fresh wood box-slabs and sec-



Alexander Ziwet

"It is very incapacitating to be so anxious to do well," She wrote on Oct. 25, with the Keats paper "stiff and la-



Unidentified student residents of a women's boarding house relax before graduation (circa 1903).

bored" in its first draft: "The spirit of Keats is mixed up with my food and sleep, and problems in calculus—and always labeled Nov. 5 [when] it will be nicely done—and I shall be standing up reading it. I have written a great deal that is either sublime or maudlin."

On Nov. 1 she declared: "I am going to 'bolt' my classes and have it out with Keats."

In a long letter on Nov. 8, she said not a word about what happened on the preceding Thursday when Professor Scott and the class discussed her paper, except that afterwards she had felt the need of sleep and fresh air. Her hope for respite after finishing the Keats assignment was dashed by what she thought on Nov. 15 was "a beautiful cold." She saw a doctor "to lose as little time as possible," and spent two days in bed, cared for by housemates downstairs. She resolved "to get an excuse from Mrs. [Myra] Jordan [the Women's Dean], for all afternoon classes for as long as need be and come home and sleep." But she was still "under the weather" when she went home for Thanksgiving. Not until Jan. 29, as the first semester ended, was she able to return to Ann Arbor. She herself described her trouble as "a sort of depression and inability to tackle anything."

After getting settled in a quiet room at 429 Hamilton Place, Wolcott looked for a new doctor (the previous one in Ann Arbor was "one of these jollying, cheer-up, nothing-the-matter-with-you kind of people"), and found William James Herdman, MD, LLD, who had a private practice as well as being on the Medical School staff as professor of diseases of the mind. He had been recommended to her as a "splendid general practitioner with a leaning to nerves." Herdman diagnosed inflammation of her nervous system and prescribed "a lot of outdoor exercise, rest and some study," and also massages, medicine and soon

afterwards, "electricity treatments."

Dr. Herdman told Wolcott not to take more than 10 hours of course work, one hour short of the required number for graduation in June. "So," she said, "I went and told old fat Dean [Richard] Hudson, who is always so technical and persnickety, and he hunted up my record, and with his own hand reduced my required 11 hours to 9. It was only giving me the two hours credit he ought to have given me last fall. I shall not call him Old Huddy or Pink-Whiskered Dick (his regular names) any more —he has been dreadfully sick ... and it has made him merciful."

Wolcott made up work that she had missed, some by examination and signed up for five hours of "snap" and four of "medium" courses that included pre-Shakespearean drama and analytical geometry. She also had her senior photograph made for the year-

book, the Michiganensian.

On Feb. 23 she told her family that she was feeling better. She had been doing a lot of walking, skating and visiting, balancing all the out-door and informal exercise with "genuine resting" in a darkened room. She survived some bad Ann Arbor weather when February ended with a thunderstorm and rain, "and a foot and a half of ice and snow in the streets, together with the walls of it along each side of all the walks began to loosen up and flow along or stand like lakes and canals in all the paths. They never do anything about it, so we go splashing around, ankle-deep in ice water until the thaw is over. They sold 300 pair of rubber boots on State Street alone [on February 28]."

In the midst of the cold, wet weather, "poor little Mrs. Pitkin," the landlady, was on the verge of pneumonia, so ill that her roomers thought she was going to die. Emily sized up the situation, betraying

no signs of inner uncertainty:

I have always said it was only by a special arrangement of the Lord's that the landladies of Ann Arbor, especially the small frail ones, didn't die of pneumonia, hovering over their faint expiring registers as they do, in their cold rooms; ... they would a great deal rather die so than take the precious coke they had paid \$5 a ton for, & throw it in the furnace and have it burnt up & destroyed, even though the room rents are for that purpose & are quite adequate.

Mrs. Pitkin lived.

Wolcott was greatly satisfied with the boarding house she moved to soon after her last semester began. She was lucky to have a place at a table of five women, a child and one man, Wilkie Collins, who, she thought, "could easily be a descendant of the original if invention and dramatic & descriptive powers are any sign." "Good rare steak" was available every morning, and "good rare roast beef" every night.

They don't have any fancy things—such as Saratoga chips and meat balls in grease and covered with bright pink sauce, which was one of the star lunches at the other place—all of which I abhorred. There are comparatively few girls; the boys mostly wear sweaters and attend law school; when the waiter is slow a whole table full will give a



William James Herdman, a professor and specialist in diseases of the mind, diagnosed Wolcott as having 'inflamed nerves' and treated her with electricity.

beautiful bell ringers performance on their glasses with their knives.

But by March 10, regretting that she "had done very little at her lessons," Emily had a spell of the "downs," bearing out Dr. Herdman's prediction that there would be regression as well as progress as she recovered. Two weeks later she was full of ambition. Thus she went from "worthless seasons" of health to favorable ones and back again. Drawing an analogy from her country background, she said it was a case of "some years we have apples and some years we don't." Dr. Herdman reassured her that her condition was "remedial," and treated her every day for a while in May with "electricity."

"I am as nervous as a witch-cat," she wrote on May 31, "but I expect I can graduate—it depends somewhat on examinations." She persisted and graduated. Her mother, Fannie Wolcott Cutler, came to Ann Arbor for the ceremonies on June 23. Immediately upon their return to Tallmadge, Emily packed her trunk for a summer in England with friends, the gift of her sister, a designer for Tiffany's. On Sept. 6, rested and well again, she began teaching English and mathematics at Rayen High School in Youngstown, Ohio. Three years later she moved to New York to teach and be near her sister. She died there in 1953.

Emily Wolcott's response to the 1924 Michigan Alumnae Council survey (on file in the Michigan Historical Collections) indicates that she did postgraduate work at Columbia University but earned no other degrees. She must have felt them unnecessary.

Edgar L. McCormick '50 PhD of Kent, Ohio, is a professor emeritus of English at Kent State University. He thanks Elizabeth A. Yeargin of Cuyahoga Falls, Ohio, Georgia Haugh of the U-M Clements Library, and Karen L. Jania of the U-M Bentley Historical Library for assisting him in this series on Emily Wolcott's two years at Michigan.

Keep Your Reference Letter File Active

The Career Planning and Placement office is conducting its regular review of reference letter files that are no longer active. As part of an ongoing process, files that have been inactive since December 1987 will be destroyed by the Reference Letter Center (RLC).

To maintain an active file, a student or alumna/us must have conducted one or more of the following transactions since December 1987: transmitted (mailed) reference letters as part of an admission or employment process; added new letters to the file; submitted updated personal data (e.g. current address, telephone or newly acquired degree).

To reactivate a file that has not been used since 1987, contact the Reference Letter Center by August 30, 1997. You will be asked to supply updated information for inclusion in your file. There is no charge to reactivate a file. File deactivation affects only reference letters. Transcripts and other academic material will not be affected by deactivation of reference letter files.

To start a new file, any U-M graduate, or a current student with at least 12 credits, should request the necessary informatin from the RLC. Each year 3,000 new files are incorporated into the system. Last year, the RLC assisted fileholders with active files by accepting 12,000 new letters into their files and mailing over 30,000 reference letter packages to graduate and professional schools and employment settings across the country.

Send information or direct questions about your file to: Reference Letter Center, 3200 Student Activities Building, 515 E. Jefferson St., Ann Arbor, MI 48109-1316. Phone (313) 764-7459; fax (313) 763-4917; e-mail cp&p@umich.edu.

Michigan's Football Champions of 1947 and 1948

By John Woodford

(but only in pounds)

The scoreboard showed less than two minutes to play as we broke the huddle and lined up just outside the Ohio State 20-yard line. The right end in front of me would break to the center drawing the defensive backs with him. If their defensive left half would take my fake to the center before I broke to the right, a one-step lead would be enough to beat him. It worked! Two steps into the end zone I broke to the right and turned to look for the ball. It was already on its way! Right in stride it thunked into my gut. I wrapped both arms around it, took the hit from behind, rolled over twice and came up with the ball. Touchdown Michigan! The bench was jubilant. A sullen silence broke out in the mammoth Ohio State stadium. It should have. It was essentially empty waiting for the next big varsity game.-Frank Whitehouse.

The skimpiness of the crowd did not lessen the thrill of that victory for Frank Whitehouse and his teammates, as the game clock ticked out with the scoreboard reading Michigan 39 - Ohio State 0. The 1947 Lightweight Western Conference's first season was over. The Wolverines

were champs with a 3 - 1 record.

Whitehouse '49, '53 MD, emeritus professor of microbiology and immunology, played halfback, quarterback, punter and end for the team of 150-punders-and-under. How did the league come into being? Whitehouse says the late George Allen, an assistant coach for the team and later coach of the Washington Redskins, told the story well in the article "Pound for Pound as Good as the Big Guys: U-M's Unheralded 1947 Football Champions.' Here is an excerpt:

Michigan's first and only 150-pound football teams existed in 1947-48. Ohio State, Illinois, Wisconsin and Michigan fielded teams in a four-game season with each playing one team twice. Michigan's home games were usually played Friday afternoon at Ferry Field.

Cliff Keen, Michigan's legendary wrestling coach, was also the head coach of the lightweights. I was selected as his only assistant.

Fritz Crisler was then the athletic director. One hundred and fifteen prospects tried out for the team the first year. What amazed Keen and me was that so many excellent athletes came out for the team-all-state, all-conference players, outstanding track men and athletes in other sports who were too small to play varsity football. World War II had just ended, and every school was loaded with service veterans. One hundred-fifty-pound football had been played in the Ivy League and Service Academies, and Crisler, who had coached at Princeton, saw how successful it had been and wanted to introduce it into the Western Conference.

Whitehouse and other team members, who included Jerry Burns, the star quarterback and later head coach of

> the Minnesota Vikings-celebrated their 50th reunion in Ann Arbor in June. As vividly as the former teammates recalled their adventures on the field, they honored the



generosity and leadership of their coaches.

Allen, for example, offered Whitehouse an athletic scholarship to be his punter at Morningside in Iowa when Allen got a coaching job there after the team's first season. "I thought it over," Whitehouse recalls. "With my servicetime savings, dormitory-staff position, GI bill and my sister's financial help I could probably get by the proposed eight more years at the University. So I told him no."

And then there was Cliff Keen. When the squad's final season opened in 1948 at Illinois, they arrived by bus and spent the night on cots in the Illini field house. Early in the game, Michigan held and went on offense. Whitehouse

picks it up from there:

On the first play my solid block was met with a solid knee in the small of the back. I felt a raging pain but finally made it to the bench and slithered onto the ground. Two plays later Cliff's face loomed above me. "Well, are you going in to punt or not?" All I could do was despairingly shake my head. A stretcher took me to the ambulance and on to the health service. A urine sample looked like

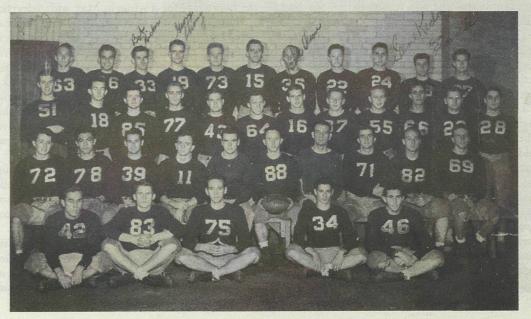
coffee grounds and I was put to bed.

The Wolverines played miserably and lost 13 to 6. They contemplated a long return bus ride to Ann Arbor after the game. "We knew that we could play better ball, and that was what hurt," wrote star halfback Prentice (Pin) Ryan in a memoir. But Keen arranged for his squad to stay for the afternoon Purdue-Illinois game, giving his men time to restore their confidence. When they departed for Ann Arbor, however, Keen left the injured Whitehouse behind:

My brother had a faculty friend on the UI campus who said that I should come to his home to convalesce. I found I was strong enough to help dry the dishes for the coed who was living with them. During the several hours it took to dry the dishes after dinner, we fondly discussed the truly serious problems of the world as college students are wont to do. After a few more days of rest I returned to Ann

> Arbor by train. It wasn't until years afterward that I found out the train ticket was Cliff's, and that he had been planning to go to Chicago on business after the

Speedster Pin Ryan goes all the way in the 1948 13-6 victory over Ohio State.



The 1947 squad: Back row (l-r) Nelson, Nahabedian, Hicks, Strong, McKee, Costa, Olson, Sipp, Kiddon, O'Connell, Wicks. 3d Row: Breakey, Marshall, Parshall, Bradley, Hurrell, Hinz, Freed, Smith, Clark, Englander, Morey, Rosatti. 2d Row: Bradbury, Sakai, Buster, Rogers, Allen (asst. coach), Ketterer (capt.), Keen (coach), Mandeville, Singer, Whitehouse. Front: Wilcox, Shaw, Schneidlee, Budyk, Emerling.

game. Instead he had left the ticket for me and came home with the team on the bus.

Ryan had more to say about Keen. "One evening before the second season began, I stopped at Cliff's home for a little talk about the season's prospects ahead. When Cliff told me that Bennie Osterbaan had offered him the assistant line-coaching job with the varsity football squad, I was speechless. Cliff then went on to explain that he had told Bennie that if he was needed he'd go, but his preference lay in coaching the 150-pounders. When I realized the opportunity that Cliff was sacrificing to remain with the 150-pounders, I could only marvel.

"Though we were usually practicing when the varsity and JV squads had gone in to shower at night, there was no grumbling or lack of spirit. Cliff was everywhere, criticizing, explaining, demonstrating and, with it all, mixing in that great Oklahoma wit that relaxed the tension I have experienced school spirit and team spirit, but never such loyalty for a coach. Here at the University of Michigan I soon discovered why this school's athletic teams have set such great winning records. The answer lay not only in the knowledge of the sport, but in the ability of men to lead their teams into competition with the greatest possible desire to win."

And win the Lightweights did, sweeping the final three games of the 1948 season—topped off again with a shutout of Ohio state, 20 to zip. Wisconsin also finished 3 - 1, but, says Whitehouse, "because we had beaten Wisconsin both years, everyone knew who the real Champions of the West were."

After two years, Michigan and other members of the athletic conference discontinued lightweight football, citing financial pressures. A student named Jim Armeligas protested the decision in the Diag, Whitehouse recalls, "but also at the same time the junior varsity and freshmen football schedules were discontinued; it would have been unreasonable to continue the lightweight program in the face of those cuts."

Looking back over 50 years, Whitehouse unites the past and present in the same perspective:

Well, Cliff is gone. And so is George. And so are some of the rest of us. And after closing the bound newspaper files with crumbling paper edges and yellowing newsprint in the Michigan Daily office, what really remains? Was it all truly part of the rehearsal for real life—with a capital L? Or did it exist as part of the big L itself?

It is spring again—this time in 1997 and the new football teams are trying their mettle in Spring practice. Fifty years seems to be too long ago. And yet our old practice field is slowly being converted with new buildings, and our bodies are slowly changing as well. Walking across the Diag to my seminar it is sweater time. Students are walking purposefully to class or standing in groups and chatting animatedly. The genders, races, body shapes and all are looking much the same under blue jean uniforms and backwards baseball caps. A few may seem more neat and isolated, but in all there is purpose in the air—purpose as real as the next hour's class, the paper due in two weeks, next semester's course selections, the new friend, the job interview coming up over at Career Planning and Placement, and the hopes for next year's professional and graduate school. The carillon is playing familiar Michigan melodies, and the trees are starting to bud.

Like many in his generation, Prof. Emeritus Frank Whitehouse interrupted his education to fight in WW II. He served in the Pacific as a bomber pilot before returning for his final three years of college in 1946. A Hopwood Literary Award winner and Medical School alumnus, Whitehouse has served as a popular counselor of students as well as a microbiology researcher.

Spring Sports Roundup

Photos by Bob Kalmbach

The U-M athletic teams turned in fine performances this season, with three taking conference titles, two regional titles, and all but one squad finishing in the upper division of its field.

Softball—Champions of Big 10, Regional champs and 5th in NCAA. Kelly Holmes '97 of Canton, Michigan, established U-M career record of 38 victories with her 1-0 shutout of South Carolina in the NCAAs in Oklahoma City. Coached by Carol Hutchins, the team set a school record for victories in a season (56) despite losing All-American Sara Griffin '98 of Simi Valley, California, to injury in the middle of the season.

Women's Tennis-Big 10 and regional champions.

Baseball-Big 10 champions.

Women's Track—Second in Big 10. NCAA qualifiers Marcy Akard '99 of Carmel, Indiana, (5,000); Nicole Forrester '99 of Cookstown, Ontario, Canada, (high jump); Tania Longe '98 of Kuikselvsein, Norway, (heptathlon, long jump); Katie McGregor '99 of Willoughby, Ohio, (3,000, 5,000).

Men's golf-Third in Big 10, paced by Big 10 champ Kyle Dobbs '98 of Saline, Michigan. Men's Track-Third in Big 10. NCAA qualifiers Neil Gardner (400 and 110 hurdles); John Mortimer '99 of Londonderry, New Hampshire, (3,000 steeplechase, 10,000); Kevin Sullivan '97 of Brantford, Ontario, Canada, (1,500).

Women's Golf-Fourth in Big 10. Men's Tennis-Sixth in Big 10.





Forrester





5

Dobbs

Gardner

Baseballers celebrate Big 10 title.

they're sullen. No, that's not the right word. Insolent. That's the word I want. Insolent. Toward you, toward themselves, toward life itself. Even their peers on Wall Street—the young financiers, the ones right out of school, the younger ones—they think they're the first ones ever to be financiers. Insolent. Do you know what else? Scared. That's what I think. A lot of it going around these days—insolent and scared."

We walked to the subway entrance under the arch of Manhattan Borough Hall. It was getting dark. The air had turned damp and cold It had begun to rain

turned damp and cold. It had begun to rain.

"Let's go over here and talk," Day said. We stood beside a large pillar, away from the flow of people on their way to the subway. Day looked directly at me. "Another thing," she said, "is liberty. Americans love their liberty. Every one of us with our own sense of liberty. Everyone with a different sense of when the law should protect our liberty. Always—though this, no one thinks about—at the expense of someone else's. No one in complete agreement

with anyone else about any of it, either. Part of this country's fundamental law is a Bill—it's a Bill—of Rights. The first time in the history of the world a government provided its citizens with the right to use government—through its courts—to protect their rights against the government! You wonder why we've had our problems! Know what else? People will fight for liberty. They'll kill for it. Think of how much of human history is people killing in the name of liberty. People will fight in the streets over liberty. I don't remember who said it—that all great problems come from the streets. Do you know what the definition of justice is on the street? You get what you deserve, that's what it is. You get what you deserve. Now isn't that interesting?"

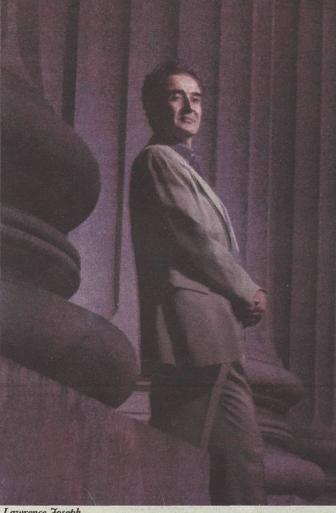
Day folded her arms around her trench coat. It's gotten cold," she said, shaking her shoulders. She looked at me again, almost staring. "What if," she said, "just what if the law we have is the one we deserve?"

poet and a professor of law at St. John's University in New York City, Lawrence Joseph '67, '70 Law (See MT, Dec. 1989 issue—Ed.) has produced his first work of faction—a novelistic genre that combines reporting and story-telling.

The book is Lawyerland, published in May by Farrar, Straus & Giroux (New York, \$22). Joseph explains in a note to readers that since Lawyerland consists of exchanges between a narrator and members of the legal profession, "there was no other way to write it" without losing the grittiness and pithiness of frank lawyerly speech. He changed the names and characteristics of persons and places, but the eight dialogswhich are delightfully thick for interpretation from historical, literary and philosophical points of view as well as the legal-are "solidly based on facts." Names, places and personalities have been changed, but the result, nevertheless, is a book that many critics have said is hard to put down. "You might say it's truthful rather than factual," Joseph told Michigan Today. "The stories are something like moral tales or parables. They use devices of fiction to refract the truth."

With the permission of the author and his publisher, we publish the following excerpt. The narrator is meeting with federal Judge Celia Day. They begin to talk about the legal profession's obligation to defend a client complicates the general moral principle that values truth-telling.

ay looked at her watch again. I said that I had to be going. She said to wait, that she had something to tell one of her clerks, and left for a few minutes. "No, I think this is worth talking about," she said when she returned and sat down. "The lying. The deception. It's not easy to talk about-nor is it easy to explain. Remember-lawyers are the ones who invented spin. Spin's a public relations term for what every lawyer knows how to do-if you have to, you change the story. How low is spin among the circles of deceit? I'd say lower than keeping your own counsel-when what you're really doing is not providing information to a person who trusts you to do so. How about, 'I didn't do that,' when, in fact, you did? In my judicious opinion? A very low form of deceit. It's one thing to say, 'That's not what I said'which is going on a lot these days, everyone covering, pardon my language, their proverbial asses. But it's an altogether different thing to say that a document never existed when, in fact, it did, and you or your client, destroyed it. That I don't recommend. Double-talk, tripletalk, saying you're going to do something when you know you're not



Lawrence Joseph

going to"-Day shrugged-"what can you do? But saying that something happened when it didn't? Saying that something didn't happen when it did? This is a business in which everyone relies on representations. This is a business in which no one ever forgets, no one ever forgives-a business in which no one ought ever to forget or forgive anyone who goes beyond those extremely tolerable thresholds of deceit into one of those morally . . ." Day stopped. "Let's just use the word wrong. When you do something no one would argue is wrong. My experience is, when you do something no one would argue is wrong, you don't want another lawyer having that on you because-here, if you ask me, is the mind set-a lawyer will get even. It's how the system-is there a verb retribute? That's how the system retributes itself. It really does. How do they say it on the street?—'what you do comes back to you.' It may take a while, but, you make a material misrepresentation of fact to another lawyer, you'd better be prepared to be hit, and I mean hit, and hit hard. The equivalent of being, at the very least, blindsided with a crowbar."

here!" Day snapped her briefcase shut. "All set. Let's get out of here."
On our way out she stopped to speak with both her clerks. "One is shy," she said as we walked to the elevators, "the other's not. You have to teach them to say what they think. Some get it right away—others, it takes time. Then there are those who never get it."

Outside, she asked if I'd walk her to the subway. We walked on Pearl Street beside the old federal court house—the New York State Supreme Court building was across the street—toward Foley Square.

"I'll tell you, too, who I think a lot about," Day said. "Children. I know"-she quickly added-"everyone does. But that's not how I mean it. I see so many kinds of people in my line of work-all sorts of different people. The only thing I can tell you for certain is there are a lot of people living in the extreme. Under circumstances that astound me. All that I'm saying is-children see. Don't think for a second they don't. We did. They do, too. Is anyone thinking about what the children are seeing? You've got these kids-kids in their late teens, early twentiesthey're in my court for God knows what. Counterfeiting. I had a case kids passing counterfeit twenty-dollar bills downtown here, around Wall Street. They've got this air of banality about them-and know what? It stinks. It really stinks. You try to figure out what they're thinking. You can't. It's impossible. You know you're going to put them in prison, and they know you know it, and they try to look right through you, they stare at you, you've got no idea what's going on in their minds-Continued on page 19

Michigan Today

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Michigan Today is published four times a year by News and Information Services,
The University of Michigan,
412 Maynard Street
Ann Arbor MI 48109-1399
Fax: (313) 764-7084
E-mail: Johnwood@umich.edu
Online edition: http://www.umich.edu/~newsinfo/
Circulation: 290,000

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