Music Filled the Air

During last summer Oscar Ghiglia, one of the world's foremost classical guitarists, taught a master class at the University which drew students and observers from across the United States. Ghiglia, an Italian who has studied extensively with Andrés Segovia, came to the University at the invitation of Alan Rosenkoetter, who has in turn been Ghiglia's student. Rosenkoetter is coordinator of applied music. Because of Ghiglia's presence here, the Guitar Foundation of American held its annual seminar on campus. Other events filled the daytime hours, and the master taught every evening. The interaction between Ghiglia and the twelve performing students who had been selected by taped audition was keenly observed by class auditors. Ghiglia teaches at the Academy Chigiana in Sienna, Italy.

John Feeley, an Irish musician who has been teaching in Memphis, plays with and for Ghiglia.
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Charge to Freshmen

By Gerald Izenberg
Associate Professor of History

Gerald Izenberg, who joined the Washington University faculty in 1976, has been one of the architects of the University’s new Master of Liberal Arts degree. This fall, his address to incoming students set forth a compelling case for the pursuit of a liberal education during the undergraduate years.

I know my colleagues will forgive me if I direct my remarks to the incoming students. And I hope you will forgive me if I seem to lecture at you, even before classes have begun. You are going to be lectured at for the next four years in any case, so you might as well get used to it now as later. And besides, academics, once they get into the mold, tend to address the world as if it were a classroom.

On this eve of the formal beginning of your undergraduate careers I would like to disabuse you of a certain idea of the university. Years ago it was fashionable to attack the university as an ivory tower, where the pursuit of esoteric truth proceeded in blithe indifference to the practicalities of the real world, conducted by somewhat otherworldly professors with stars in their eyes and chalk on their sleeves. In more recent times the university with its professional schools and business schools, its consulting and its contracts, seems to have been absolved of this charge and to have joined the real world. This is in fact false.

The university, at least as far as undergraduates are concerned, is not the real world. It is, or can be, like no other experience you have ever had before nor will have again. It is not the world of school and it is not the world of work. There will be, of course, much that will be strongly reminiscent of school: homework to do and assignments to complete, uninteresting material to learn, arbitrary teachers to please, and grades to grub. There will also be much that will be part of the work world, whether it’s direct preparation for a specific career, or the compiling of the kind of record that will be attractive to future schools or employers. But neither of these is the essence of an undergraduate education.

Please don’t think I’m denigrating either the authoritarian discipline of required courses or the practical considerations of earning a living. To get something out of this place, you have to work hard at things summarily assigned by people who know more than you do. And it is a mistake, a mistake which by the senior year can provoke enormous anxiety, to defer all thoughts of vocation in the high-minded quest of pure knowledge. But that is a mistake few will be tempted to make these days. You need few exhortations in the current economic climate and with the current cost of education to think of your college education as a financial investment, and if you need them, all you have to do is write home and tell your parents that you are majoring in literature or philosophy or classics. But if getting a job credential is all you do in the next four years, you will have lost the opportunity of a lifetime.

The next four years are a privileged space, a space between the tutelage of childhood and the responsibility of full-time work or vocational preparation. Because of age, because of distance from home, because the university uses the method of critical inquiry instead of rote learning, you are free in ways you perhaps have never been before to question what you’ve been told you are by others. And even if you have been a pre-med since the age of five, you haven’t yet immersed yourselves in the concrete commitments that will forever exclude you from certain possibilities and narrow your world to one stage set and your personality to the dimensions of a role.

In the next four years, with all the pressures to produce and perform, you will be more detached than you will ever be again. You will be in a better position to study the world as a whole and in all its parts to decide where you want to fit in. You will be freer to grapple with the questions that everyone has to decide sometime in their life, or see decided by chance and circumstance. You have the opportunity to develop what we call, God help us, a “world view.”

Everyone has one, no matter how unpretentious, practical, or unphilosophical one thinks one is. The narrowest, most concrete act is governed by a theory. Eating is an act of faith and making love is a whole philosophy. Whatever one chooses to do in life implies ultimate commitments. Medicine, for example, is not just a technology of the body; it is a value system which demands, in such areas as abortion, euthanasia, and triage, judgments about the meaning of health and the definition of life. It is a metaphysical pursuit that encounters death every day; and too bad for the doctor—even more his patients—who has not wrestled with the meaning of death, his own and others’, before he faces the dying patient and his family. Medicine is a scarce economic resource whose distribution and availability pose profound questions of political and social philosophy. And it is an interpersonal relationship whose character depends on our conception of ourselves and our obligation to others.

This is true for other activities as well. Business is not just the pursuit of profit or the knowledge of markets. It is at once a theory of human nature—because it rests on assumptions about what people want and how they operate; a social theory—because it implies beliefs about what is best for the individual and society; and a personal ethic—because it entails a conclusion about what will make us happy and about how we ought to structure our relationships with others.
Whether or not we are aware of the beliefs and values we have chosen in our most practical acts and untheoretical decisions, we have chosen them anyway—only we have chosen them blindly and unfreely, in a way that may make us feel ultimately trapped by their unanticipated implications and consequences.

Last year you may have been too young to know or care that your behavior implied an entire world view. And if you did, it's certainly unlikely that your educational environment, in its zeal to teach you "facts," tolerated the kinds of vague doubts, criticisms, and "big questions" you may have had, or gave you the tools to articulate and deal with them. Four years from now you may be too old, too busy defining a social role and vocational identity to begin asking what it's all about. In the ivory tower of the next few years you have the express sanction of the system to spend time asking, or starting to answer, what the German philosopher Immanuel Kant called the three fundamental questions of life—What can I know? What ought I to do? What may I hope?

You may, of course, think you already know the answers. If you come from a relatively sheltered, homogeneous environment and point of view, you might have quite definite opinions about things. In that case your best hope is to lose your innocence, to find yourself shaken by the sheer diversity and the apparent perversity of the beliefs and lifestyles you can discover here. There may be nothing wrong with your current beliefs—except that beliefs held out of habit, out of conformity with external expectations, out of identifications with or rebellions against authority, or out of ignorance of alternatives, are not really yours. They are not won through personal experience and individual thought. Here you will have the chance—it may be an offer you can't refuse—to test your views, not only against the conflicting views of contemporaries but also against the whole history of thought. If you reaffirm them, it will be for good reasons, because they've emerged from genuine combat against the best there is, and not because you've blindly touched one part of the elephant and called it the whole.

On the other hand, if you come to college sophisticatedly bewildered by the variety of beliefs, long since shaken out of the dogmatic slumber of childhood, and paralyzed into skepticism by the equal certainty and uncertainty of just about everything, you will have the chance to acquire the intellectual tools to cope with this dilemma. You will discover that you are not alone, that you are not the first to have been bothered by ethical, political, or philosophical questions. You do not have to create answers out of nothing, and you don't have to be lost for a place to begin. There is an organized body of knowledge, or at the very least a rich tradition of questioning, to help you. You may not rest content with the answers you will be given, but you do not have to reinvent the history of thought; you can start at the frontiers of the best that has already been thought and said. And in trying to forge your own answers, you can become part of the endless dialogue of the human mind with itself that makes up the real curriculum of the university.

As you participate in that dialogue, you will discover that your education, if it is a real education, will be a peculiar blend of the subjective and the objective. The synthesis of knowledge you make will be your synthesis, composed of those elements you need for your own sense of wholeness. The map of the world you draw will be drawn from your particular perspective. That is why it is useless to be a passive consumer of your education.

A good short-term memory (we assume a certain intelligence because you are here) will get you through this place. If you go that route, you will have at the end your B and A transcript and your B.A. degree, but not much else. The graph of retention for material learned in a course shows an appallingly steep decline in a very short time after the final exam; within weeks you will be lucky to remember 10 percent of it. In courses you take because you want to, you will actively interpret, question, integrate what you learn; you will retain more, and what you retain will be part of an expanded personality and an expanded world.

On the other hand, human beings are sufficiently similar and the human condition sufficiently common so that there are objective things everybody needs to know. At the foundation of all the answers we require, for example, are the basic rules and processes of rational thinking. The world and the mind are structured so that some procedures yield reliable truth, others do not. If one could acquire only one thing at the university it might well be the tools necessary to make and to recognize valid statements and arguments—the ability to draw sound conclusions from premises and to recognize typical logical fallacies, to generalize from evidence and to test the validity of generalizations, to draw proper causal inferences from facts, and to confirm or disconfirm explanatory hypotheses. That alone would be
worth the price of admission. But we are not just cognitive beings. Perhaps the most important sphere in which we need to apply our rules of reasoning is the moral sphere, the sphere of action, of personal relationships and public policy. The concepts of "good" and "ought" are indispensable to our action, since without their guidance we literally don't know how to behave. In no area of life is it more important that there be clarity and coherence, yet in no area of modern life is there more uncertainty and conflict. The ethic of individualism—our community standards. It has left the self vague and confused the balance between claims of right for the self and obligations to others. We're not sure which, usually implicity, give meaning without definite, positive guidelines. The concepts conflict. The ethic of individualism—our and which has perhaps to be adjusted to which.

Among the values we hold, some are our ultimate commitments, those which, usually by nature, give meaning to our lives. The religious believe that these are transcendent, higher than man, signs of God, or at least of an unsatisfied religious longing. Secular existentialists argue that though our ultimate concerns are god-terms, they are human choices because man has been thrown into the world without meaning and purpose and must fashion them for himself. We must decide between these positions, for much about the way we lead our lives depends on which we adopt.

How to know, what to do, what to believe—Kant’s questions, more or less, but they don’t exhaust our questions. Perhaps, above all, we also want to know ourselves. And there are so many selves to know. There is, for example, the self studied by biology so that we can appropriate and become the masters of our own bodies. There is the self studied by psychology, which tries to penetrate to the fundamental motives and intentions governing our behavior and to illuminate our opacities and irrationalities. There is the self studied by history, a most important self, because in a crucial sense we are our histories.

What we are in the present, our identities and norms in terms of nationality, ethnicity, class, and even gender are the sum totals of the histories of the groups to which we belong, concealed into apparently timeless values and definitions. What Americans are, what Western man is, what woman is—these fixed categories are really the compressed histories of the nation, the culture, and the sex. To possess ourselves is in part to possess the historical sources of our collective loyalties, ideas, and fears. And to understand their roots in events and intentions instead of seeing them as necessary truths of human nature or mere arbitrary accidents can serve either to solidify those identities by revealing the reasons for them or to put them in perspective by locating them in a history no longer relevant to us.

There is, finally, the self studied by literature, the imagined self, the uniquely individual self in contrast to the collective and general self of the social sciences. To read literature, however, is to do more than discover the self—it is to create it. In one sense, we are, after all, language. Whatever we are we must express in words: thought, feeling, wit, and style are nothing without words—their very being is language. We are the very structure of the language we use—its richness or its economy, its directness or its allusiveness, its bluntness or its sensitivity. Much of our language is the shared conventional language of our socialization. If we are to be more than the mouthpieces of social cliches, we must learn to use language in individual ways. Literature is our model and our instructor. It is the highly individualized interpretation and appropriation of the world through the imaginative use of language. Nothing is truly ours until we have named it—that is why we always try to express inexpressible love. The richer and more unique our language, the more world we have.

Literature gives us models for another necessary function of our lives. The literary work, through form, creates a world; it “totalizes” experience by linking everything together in the author’s subjective statement. But that is what we all do. We all structure subjective worlds in which the objective themes of childhood and love, ambition and tragedy are refracted through our unique selves and ordered into a coherent interpretation. We are all, in a sense, artists—poets, novelists, or dramatists of the inner life. We all give form to experience, whether we lyricize or dramatize—or melodramatize—it, whether we see our lives as adventures, tragedies, or farces. Giving form to our lives is the way we integrate experience. What we do implicitly, literature does explicitly. That is why we have an affinity for it and that is why we need it to understand ourselves.

I can assure you that I have hardly exhausted the areas which go into making up a self and a world view. No doubt you can add your own even now, and soon enough you will discover more.

At least you can discover more; you don't have to. There are other ways of going through college. But how could you stand it to know that there are those who know more about you than you do yourself at this point, without trying to learn what they know? How could you stand not finding out what Plato knows about your good, and what Kierkegaard knows about your ultimate concern, what Marx and Keynes know about your economic behavior or what Freud knows about your unconscious motives?

A colleague of mine once sarcastically remarked about the campus unrest of the 1960s that if the radicals succeeded, it would be the first parent-financed revolution in history. His point was right, but his tone was wrong.

In these somewhat quieter, if no less dangerous, times what it means is that you have the rare opportunity for a subsidized maturation, a supported moratorium during which you can establish the terms of your own independence and affiliations. The process of becoming a whole person goes on forever, but you will never again have so much time to devote to acquiring the skills, the knowledge, and the openness to further it. I hope you take the opportunity. And, with just a little envy, I wish you, as you begin, much luck.
The Great Eccentric
By Estelle Brodman, Ph.D.
Librarian and Professor of Medical History

Joseph Nash McDowell founded a medical college in St. Louis when the city was a raw riverfront settlement burgeoning with immigrants moving west. Professor Brodman theorizes that the city then was civilized enough to appreciate his genius, yet uncivilized enough to tolerate his temperament. Her study of medical history began with her doctoral research at Columbia University in 1953.

The history of medical education in nineteenth-century America is replete with eccentric people—people who saw visions, people who spoke to God directly—but perhaps none was more eccentric than the Kentucky physician named Joseph Nash McDowell. Nephew of the more famous Ephraim McDowell, Joseph Nash McDowell came to St. Louis in 1839 and founded what later became Washington University School of Medicine. When we at Washington University are tempted to take ourselves too seriously or to put our predecessors on too high a pedestal, we might do well to remember the colorful side of our great progenitor.

As one Kentucky historian of medicine wrote, "The McDowell clan were an interesting lot; William, who settled (in Louisville) after practicing a while with Uncle Ephraim, was a milder eccentric." William’s cousin Joseph, however, was anything but mild; indeed, there are elements in his actions which led some to wonder whether he might not have gone beyond eccentricity to downright insanity. Nor are all of his questioners modern ones, with today’s view on conformity; they include McDowell’s contemporaries, who talk from the point of view of medical politics of the first third of the nineteenth century. Samuel D. Gross, for example, writing thirty years later of his experiences with McDowell said, “His conduct... was that of a madman rather than that of a sane person.” He certainly tested the limits of nonconformity which a particular society can allow before it feels threatened and takes action to “defuse” the eccentric, though society 150 years ago apparently tolerated more medical eccentrics than we do today.

Joseph Nash McDowell was born in April 1805 in Lexington, Kentucky, the first child of Major John McDowell and his second wife, Lucy LeGrand. Educated at Transylvania University, where he studied under Daniel Drake, he graduated in 1825, with a medical degree and an attachment to his teacher’s sister, Amanda Virginia Drake. Though he was later to marry Miss Drake, the course of true love never did run smooth, as the Bard says. McDowell sought further medical education, particularly a wider knowledge of anatomy, at the prestigious Philadelphia medical school. He was offered a place on the faculty there, but stayed only one year before returning to Kentucky to go into medical practice with his uncle Ephraim.

Up to that point, his story is straightforward and without unusual features. Then, as the old silent pictures would put it, the plot thickens—or, rather, the picture grows murky and blurred. Sometime during this period, Joseph Nash McDowell developed an intense hatred for his famous uncle, Ephraim, and for the rest of his life, he spared no pains when speaking or writing to try to denigrate Ephraim’s work. Joseph even went so far as to get affidavits from Ephraim’s famous ovariotomy patient, Mrs. Crawford, saying that the actual operation was performed not by Dr. Ephraim McDowell, but by his assistant, Dr. James McDowell. One reason proposed for this animosity and for such unnatural and ungentlemanly behavior is that Joseph McDowell fell in love with Ephraim’s daughter, that the daughter refused him, then was so bedeviled by Joseph’s continued wooing that she finally complained to her father, who spoke to Joseph “in kindly but in no uncertain terms,” as the old story puts it. How this ties in with the tale of Joseph’s falling in love with Daniel Drake’s sister, history is left to speculate.

This incident apparently marks the first appearance of a strain of character in McDowell which goes beyond the norm. Many men, after pleading in vain for the hand of their beloved, have borne their disappointments with decorum and reasonable ness. Joseph Nash McDowell, however, drove the object of his affection to despair and conceived an exaggerated and lasting hatred for her protector.

At any rate, when Daniel Drake organized the Medical Department of Cincinnati College, McDowell joined that faculty as adjunct professor of anatomy and physiology. Perhaps the story of his falling in love with Drake’s sister belongs to this period, rather than before his
experience with Ephraim's daughter, although Drake's biographer, Otto Juetttner, says Amanda Drake "had been his playmate and sweetheart when he was a young boy."

A good deal of Daniel Drake's energies were devoted to a war of extermination against the Medical College of Ohio, which he had founded but which had expelled him by a vote of the faculty. McDowell, always eager to fight, loyally threw himself into the fray on the side of his former teacher and present brother-in-law. He is said to have attacked the members of the Medical College with personal abuse and vilification, and sometimes even obscenity, going far beyond the personal invective commonly accepted in that period. William Beaumont, for example, so castigated his colleagues in 1840, when he became President of the St. Louis Medical Society, that he never had a quorum at any meeting during his incumbency. His description of local faculty members in a speech was this:

...our bitterest professional enemies, men rejected for their demerits, disappointed applicants for admission into our society, and vain, vindictive itinerants and egotistical characters called Professors of a self-generated, ill-begotten Semi-vital institution yeclpt "Medical School" somewhere in this vicinity, which alike regardless of the common courtesy of Medical communities and destitute of professional decency and etiquette, obtruded itself into public notice like a swarm of ephemeral insects by the disgusting noise of its own creation in its sudden transit to decay and nothingness, and of whom we know little, but hear much of senseless vaunting and self-indited puffs, plaudits and fraternal adulation in newspapers and pamphlets, and personal gasconading garrulity in community?

McDowell's colleague, Samuel Gross, said of him that "no man ever wagged a fouler tongue." He was, said Gross, "a by-word on the part of the public and his professional brethren." McDowell seemed always to have one or more foes on whom he heaped abuse and epithets in a sort of guerrilla warfare, and he used any means or weapons, however objectionable, against those who had raised his ire.

But this was not the only peculiarity in the character of McDowell, who Henry Clay thought "had the greatest mind on earth except for its eccentricities." The exception is notable, for these eccentricities were multiple and almost overriding. Although he was a great teacher of anatomy, whose eloquence made even the dry bones speak, as one of his students put it, he was so superstitious that he would not lecture on Fridays. On any other day, he was quite willing and happy to talk at great length on any subject. Indeed, it became one of the entertainments of outings in St. Louis to ask McDowell to talk extemporaneously, and there is one story of his discoursing for several hours on the evils of alcohol, only stopping at intervals to slake his thirst with substantial draughts of gin, poured from a pitcher at his side.

McDowell remained with Drake at the Medical Department of Cincinnati College until it ceased to exist in 1839; then he struck out for the city of St. Louis. What caused him to choose this place rather than any other is not known, of course, but some idea might be found in the fact that as soon as McDowell reached the Mississippi city he announced the formation of a medical school. It is likely that McDowell agreed with Charles Caldwell of Louisville that a medical college needed to be in an area where it could get reasonable supplies of cadavers for dissecting and live patients for clinical study; in the 1830s only three cities west of the Appalachians could furnish these requirements—Louisville, Cincinnati, and St. Louis. McDowell had exhausted the other possibilities, and moreover, St. Louis was growing apace; it was the jumping-off place for the fur traders and explorers of the West and later was to become the provisioning area for the California gold rush. In 1820, it had a population of 2,000; in 1840 it had grown to almost 20,000. By 1849, the year of the worst cholera epidemic, it held 63,000 souls. As a result the community never had enough housing, enough drainage, enough firemen, ships chandlers, Conestoga wagon builders, or physicians. Moreover, it was a population continually on the move, with many people remaining in the city for short periods of time before moving on to other areas to the west. The tough waterfront neighborhood, crowded with masts and troubled with cholera from fouled water, could easily provide bodies and patients for
physicians, and physicians trained here might well move on to become a blessing to areas still untamed farther west.

It may be that Joseph Nash McDowell had some of this in mind when he announced in 1839 that he would open a medical school in St. Louis under the aegis of Kemper College, a small and struggling Episcopalian seminary which was empowered to give degrees in all subjects. With Dr. John Moore, who had come to St. Louis with him, McDowell set up the medical school, with himself as head and a group of unknowns to fill the rest of the professorships.

McDowell, always of a suspicious nature, had many complaints about the physicians and educators of St. Louis. McDowell's school, the Kemper College Medical Department, was not the first medical school proposed in the city. A group of physicians who were members of the St. Louis Medical Society as far back as 1835 had wished to set up a school and had even invited William Beaumont to take the chair of surgery. Since the only college then in St. Louis was the Jesuit institution, St. Louis University, they naturally sought affiliation with it. Because of a number of obstacles, however, the St. Louis University Medical School did not come into being until the year after McDowell's school had been set up. Immediately, McDowell concluded that the Jesuits were out to get him personally—and he delivered a two-hour harangue against Catholics, Jesuits, and the rival school. Its dean, unfortunately, was named Dr. Charles Pope, so that McDowell could rail about the Pope without specifying whether he meant the one in Rome or the one down the street. For the rest of his life—almost—McDowell was convinced that the Jesuits would bring bodily harm to him and to his school; as a result he had made and wore regularly a set of body armor. When he constructed the first building designed for his medical school, he had its cupola sheathed in copper and mounted cannon on it, so that he could mow down advancing armies of Pope's minions. It is in keeping with McDowell's personality that, in spite of this, he had a deathbed repentence and conversion to the Catholic faith. He died in utter poverty in 1868, but in the odor of sanctity and with the blessing of Father P. T. DeSmet, the famous Western explorer and Indian missionary.

Unfortunately, the parent Kemper College did not prosper, and by 1847 McDowell had to shoulder the financial and other responsibilities of his medical school by himself. It was at this time that he built the buildings which exhibit his belief that he was a lone soul battling all those things around him. His new medical school building (like his home, just across the street from it) was a formidable fortress, an octogon-shaped stone house with a cupola. A large column was supposed to be erected from the basement to the roof, with niches in it for copper vases, which were to contain the remains of members of the faculty. Somehow nothing came of this proposal.

From this building, also, McDowell planned an invasion of upper California, which he proposed to
Dr. McDowell's Medical College, a branch of Kemper College, St. Louis. Built in 1840. Design by Mr. Lewis; drawing by Mr. Drake.

McDowell Medical College.

conquer for himself and the United States (in that order). For this purpose, he purchased 1400 discarded muskets from the Army and fashioned several cannon from scrap brass—all of which he hoped to take across the plains with him. He persuaded several hundred students to declare they would accompany him as his “army.”

Although nothing came of this expedition, the store of military supplies got McDowell into trouble with the Union forces during the Civil War. Missouri was one of the border states, reluctant to make up its mind on which side to fight. At one time it had two governors and two legislatures, each claiming to be the authoritative government. Indeed, the naval battles of Vicksburg and Memphis were fought in large part to keep St. Louis from becoming the stock-point for the Confederates. In the city itself, a battle between liberal German emigres who had left Europe after the unsuccessful revolution of 1848 and Confederate sympathizers actually took place close to where Washington University’s medical school now stands.

While Missouri opted for the Union, McDowell came out strongly for the Confederacy, which sent him to Europe to negotiate for supplies to be brought in via blockade-running. He was, however, caught by Union troops and imprisoned in his own building, which had been seized by the army and turned into a very secure prison for military and political prisoners. During this period, of course, the McDowell Medical School (its formal name was the Missouri Medical College) was suspended.

As soon as the war ended, McDowell returned to St. Louis and reestablished his school, which then flourished for a number of years, with classes of over 100 students. Part of its success was due to McDowell’s great abilities as a teacher of anatomy; in turn, his anatomical teaching could flourish because of the abundant supply of cadavers which a river town provided.

But not all the cadavers were received in casks of spirits from some other place along the river; there was some need for body snatching, and Joseph Nash McDowell did his share of this, too. There is one story of how he and two students “resurrected” the body of a young German girl who had died of an interesting and unusual disease, and placed it in the college during the night. Unfortunately, news of the grave robbing got around and an irate mob gathered to storm the school. McDowell decided to hide the cadaver in the rafters of the top loft. This is McDowell’s own account of the incident:

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But not all the cadavers were received in casks of spirits from some other place along the river; there was some need for body snatching, and Joseph Nash McDowell did his share of this, too. There is one story of how he and two students “resurrected” the body of a young German girl who had died of an interesting and unusual disease, and placed it in the college during the night. Unfortunately, news of the grave robbing got around and an irate mob gathered to storm the school. McDowell decided to hide the cadaver in the rafters of the top loft. This is McDowell’s own account of the incident:

I had ascended one flight of stairs when out went my lamp. I laid down the corpse and re-struck a light. I then picked up the body, when out went my light again. I felt for another match in my pocket, when I distinctly saw my dear, old mother who had been dead these many years, standing a little distance off, beckoning to me.

In the middle of the passage was a window; I saw her rise in front of it. I walked along close to the wall, with the corpse over my shoulder, and went to the top-loft and hid it. I came down in the dark, for I knew the way well; as I reached the window in the passage, there were two men talking, one had a shotgun, the other a revolver. I kept close to the wall and slid down the stairs. When I got to the dissecting room door I looked down the stairs into the hallway; there I saw five or six men lighting a lamp. I hesitated a moment as to what I should do, as I had left my pistols in my pocket in the dissecting room when I took the body. I looked in the room, as it was my only chance to get away, when I saw my spirit mother standing near the table from which I had just
taken the corpse. I had no light, but the halo that surrounded my mother was sufficient to enable me to see the table quite plainly.

I heard the men coming up the stairs. I laid down whence I had taken the body and pulled a cloth over my face to hide it. The men came in, all of them being armed, to look at the dead. They uncovered one body,—it was that of a man, the next, a man; then they came to two women with black hair,—the girl they were looking for had flaxen hair. Then they passed me; one man said: “Here is a fellow who died in his boots; I guess he is a fresh one.”

I laid like marble. I thought I would jump up and frighten them, but I heard a voice soft and low, close to my ear, say “Be still, be still.” The men went over the building, and finally downstairs. I waited awhile, then slipped out.

Anatomy was McDowell’s great love, and anyone who appreciated it was automatically his friend. Thus, at a time when “ladies” were not allowed into dissecting rooms, McDowell encouraged Harriet Hosmer, the sculptor, to study human anatomy through dissection at his school.

Although McDowell saw nothing strange in grave robbing when the bodies of others were concerned, he had a very different view of the practice when the bodies of his family and himself were in question. In addition to his unsuccessful plan to have members of the faculty of his school placed in copper containers in the school building’s underpinnings, he had other proposals. When he was quite sick, McDowell had his partner, Dr. C.W. Stevens, and his oldest son, Dr. Drake McDowell, promise to place his remains in an alcohol-filled lead coffin and suspend in from the roof of the Mammoth Cave of Kentucky. When his daughter died, he had her suspended in a copper coffin in a cave near Hannibal, Missouri. There she remained until some vandals broke in, stole the copper and left the body exposed. It was not until World War II that the McDowell graves in Bellefontaine Cemetery in St. Louis even had a marker to indicate who was buried there.

McDowell’s other superstitions and prejudices have resulted in stories too numerous to relate. Deathly afraid of thunderstorms, he would hide under the bed when one approached. He believed in spiritualism and frequently invoked the spirits of the dead. His students, as might be expected, took advantage of some of his foibles and played jokes on him; but they also loaned him money and brought him home when he was too drunk to navigate. Though a nasty opponent, McDowell was thoughtful to his family and kind to the poor. Yet, Paracelsian that he was, with a “mixture of commendable attributes and most detestable traits,” as Juettnner put it, his genius was appreciated by many. Thus, he was elected vice-president of the American Medical Association in 1860 and was chief surgeon in the first two hospitals built in St. Louis. Even politicians like Henry Clay admitted his greatness. His students enjoyed his invective and ridicule, yet they all seemed convinced that they were receiving the best medical education available, and they spread the fame of the school so that it continued to have large classes and was able to graduate from 25 to 30 doctors each five-month year for two decades.

It is hard to say whether Joseph Nash McDowell would have been as successful a medical educator had he lived a century later. Even in his own time, such contemporaries as Samuel Gross were offended by his style. The rough-and-ready frontier towns of the first half of the nineteenth century probably held more misfits and eccentrics than are tolerated today; the solid citizens who could cope with situations in the settled East did not generally feel any need to move on, and so by natural selection, frontier towns held many unconventional people.

Many famous European travellers, such as Charles Dickens and Miss Harriet Martineau, commented on the atrocious manners, the slovenly dress, and the general air of pugnacity which they saw everywhere west of the Appalachians. Yet bad as the general level was, McDowell’s personal level was undoubtedly worse. In spite of this, no one tried to oust him from the deanship of his school, and no one thought to have him placed in an institution for the care of the mentally afflicted.

Codes of acceptable behavior change over time in every society, of course. Generally the older a civilization, the more codified the accepted behavior of its citizens becomes. This may be partly due to the fact that the virtues of flexibility, so necessary in a pioneer group, are neither needed nor desired in a more settled community. The older community, moreover, having had to cope with many kinds of situations, may have evolved ways of handling them which it deemed successful and not likely to cause trouble. It would, therefore, not look with favor upon anything likely to rock the ship of state. Finally, the actual presence of a wilderness beyond the frontier might result in more willing acceptance of peculiarity than would be possible when the population grew so large one could not easily get away from an irritating fellow-citizen. When a people have no long-nurtured roots in one place, it is no great chore to get up and leave for another place. Those who objected to Joseph Nash McDowell’s or some other neighbor’s style would have had no difficulty pulling up roots and moving to a different place where the thunderings of the rowdy would not penetrate.

Possibly all these conditions were present in St. Louis in the mid-nineteenth century. Certainly other physicians in our town then—notably William Beaumont himself—were curmudgeons of the worst sort. And yet, of all those of whom we have records, surely Joseph Nash McDowell carried his eccentricities furthest.
History: Handle with Care

By Marcia Neuman

Anthropologist Patty Jo Watson's work in western Kentucky seeks to establish in time that momentous occasion when hunters and gatherers turned to husbandry. As it has progressed, however, she and colleagues in anthropology and archaeology have become alarmed by increasing incidents of scavenging at their sites.

Who can browse a country flea market or the gift shop of a small historical museum without stopping to finger the Indian arrowheads, marveling at the perseverance and skill of their makers? To most of us, these ancient weapons evoke romantic images of migrant tribespeople moving across the plains, horizons blackening herds of buffalo, or long-settled adobe villages rising on the barren Southwestern mesas. But to archaeologists, sales of arrowheads are alarming, for they may be a vital link to the past, pieces in the intricate puzzle of our continent's history.

"People who collect Indian artifacts—whether innocently, for their own pleasure, or for monetary gain—don't realize they may be depriving the public of information needed to understand the variety of human societies who inhabited America in prehistoric times," says Patty Jo Watson, a Washington University professor of anthropology whose recent research in western Kentucky has focused on that area's origins of horticulture dating back 4000 years.

In certain areas of the country, arrowheads, pots, bones, and other materials have withstood the tide of succeeding civilizations. These are particularly rich in artifacts of general, as well as scholarly, interest. Although these sites abound in the southeastern and southwestern regions of the United States, their discovery and vulnerability to scavenging has become a concern of the archaeologist.

Many of the sites are located on land which is already part of a national park or preserve; but some are on property now privately owned. In both cases anthropologists working under the auspices of a university or a museum must obtain permission to conduct a dig. Then they carefully document and preserve materials uncovered. It is this process of meticulous collection and cataloguing of every bit of material found—sometimes down to a tiny poppy seed—that marks scientific investigation. But it is becoming increasingly common for the archaeologist's work to be seriously disturbed by an influx of amateur archaeologists, collectors, and malicious pothunters in search of souvenirs. In the worst instances, scientific work has had to be abandoned because of their ravages.

"We use the term 'pothunters' to refer to the looters predominantly found in the southwest regions of the United States and in Mexico, although they can be found everywhere now," laments Watson. "In these regions, many well-preserved prehistoric sites and graves contain attractively decorated pottery. There is a lively market for these pots; a single bowl may be sold to a collector of primitive art for several hundred dollars."

Although professional archaeologists feel particularly vexed by pothunters, in truth as much damage can be wreaked by the well-intentioned amateur or collector whose motivation is sheer love of archaeology. The challenge posed in dealing cooperatively and constructively with them is not lost on Watson or her colleagues. She points out that in St. Louis there are two clubs devoted to amateur archaeology, together representing 100 persons. "Some members are extremely cooperative with our efforts, but others regard professionals as enemies. It's often very difficult to reach these people and to establish credibility with them."

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That, however, she recognizes is the task ahead, for collectors are well organized and represent a faction which can be either an asset to scientific archaeology or a formidable barrier. "In almost every Midwestern town there are one or two people who are devoted collectors. And most of them are very knowledgeable about the nearby sites because they live and work there. Though their motives vary, their methods can be terribly destructive, not to mention dangerous," says Watson. She recalls that a group of researchers from the University of Tennessee conducting an excavation in the state's back hills narrowly escaped a shootout.

Individual owners of property where sites are to be dug are often very cooperative, but even that is not a guarantee of protection. Watson's own work along the Green River (a tributary of the Ohio) in western Kentucky is illustrative.

This research is financed in part by Washington University faculty research grants, as well as grants from the National Science Foundation, the National Endowment for the Humanities, and the National Geographic Society. But she notes that her work would be impossible without the enthusiasm and hospitality of the inhabitants of Logansport, Kentucky, especially Mr. and Mr. Waldeman Annis, owners of the property on which she works, and John L. Thomas, postmaster of Logansport and manager of the general store.

The Annises protect Watson's research by refusing to grant permission to other diggers, but her primary site and others near it are physically unprotected from trespassers. On at least one occasion, work was jeopardized by looters from another part of the state.

Despite such intrusion, the Kentucky research being conducted by a Washington University team under Watson has been yielding impressive results. Begun in 1963 in Salts Cave, Mammoth Cave National Park, the project was extended in 1972 to a shellmound area near Logansport, Kentucky, in a region known as the Big Bend of the Green River.

A shellmound is a prehistoric trash heap which includes large quantities of mussel shells, indicating that the people who once lived there relied fairly heavily on the river for food. Watson's particular site, the Carlton Annis mound, was first excavated by the U.S. Works Progress Association (WPA) in the 1930s. As a result, the area was known to be rich in prehistoric remains.

In Kentucky, Watson set out to try to answer a question that interests many archaeologists and anthropologists: When did people first begin to cultivate plants for food? "The domestication of plants and animals is the single most important turn of events ever to happen to humankind," says Watson. "Ninety-nine percent of the human career has been lived in a hunting-gathering setting. Because of our findings in nearby Mammoth Cave National Park, we suspected that the aborigines in this part of the Green River drainage cultivated plants."

Previous archaeological work in the region had documented and removed for analysis specimens of prehistoric fecal material found in the large dry caves in the national park. This provided a unique body of data on the diet and nutritional status of the prehistoric cavers. According to radiocarbon
Salt's Cave contains hundreds of miles of passages that were explored by prehistoric cavers. In this lower-level passage, archaeologists discovered a large well-preserved body of prehistoric human excrement.

Thomas Grocery and Logansport Post Office serve as the supply post for Watson's shellmound archaeological project in western Kentucky.

dating, individual fragments of human excrement and pieces of torch material left in the cave in prehistoric times are 2000 to 4000 years old. (Radiocarbon dating is a method originated by physicists to establish the age of organic materials by measuring the radioactivity of their carbon. The accuracy of its dating varies depending on the size and time period of the sample. Watson's material was dated within a few hundred years, but more recent samples may be fixed to within twenty years.) Using this method on the cave material, researchers were able to determine that by 1000 B.C., a number of plants were being cultivated.

Although that date was enlightening, its open-endedness in establishing the earliest time of plant husbandry in the region intrigues Watson. "There remain lots of unanswered questions about these aborigines," she explains, "First of all, we know that they didn't live in the cave, but rather worked there, stripping minerals like gypsum from the walls. They could have used the gypsum as paint or plaster, but I think they probably traded it, too. We searched outside the cave for some other evidence of their activities at this time period and earlier, but we could not find any deep deposits of the right age."

Unable to find that documentation in the Mammoth Cave Park, Watson and her team moved forty to fifty miles west to the previously excavated shellmounds. The shellmound evidence was of the same period as the findings in the cave, but Watson wasn't sure the area contained the botanical proof she needed to establish earliest plant cultivation in this part of the Ohio River drainage.

Most of the evidence she needed would have survived only as charred botanical remains. Such fragile and tiny materials call for special handling, so Watson rigged her own version of a "flotation system," a popular way of recovering archaeological remains. The principle behind the flotation system is quite simple: charcoal (charred remains of bone, botanical or other organic materials) will float in water more readily than the dirt encasing it.

The flotation system, in its crudest form, goes back to the middle of the nineteenth century. In 1860, an Austrian botanist named Unger floated ancient Egyptian adobe bricks to retrieve the grains and other seeds included in them. In 1965 the flotation system was popularized by Stuart Streuver, a professor of archaeology at Northwestern University. His technique, called the "immersion method," laid the foundation for Watson's development of a more refined device.

Streuver's method, still used by some archaeologists, requires that three people wade out into a stream, river, or lake. One person holds a washtub with a mesh screen bottom in the water while another pours dirt samples into the tub. As the water rushes up from the bottom, washing away dirt, the third person scoops off any floating matter.

Watson's method is more efficient in recovering botanical material and is more convenient, needing only one person for operation on dry land.

Watson's system uses a customized 55-gallon barrel equipped with a shower nozzle and a two-and-one-half horsepower water pump. A large bucket with a mesh screen bottom is fixed inside the barrel. From a spout on the lip of the barrel hangs another bucket with an even finer mesh screen bottom. When samples of archaeological dirt are poured into the bucket and water is showered over them, the excess dirt is washed into the bottom of the barrel. As the barrel and bucket fill with water, the floating material rises to the top and spills down into the bucket hanging from the spout.

Watson's method recovers more botanical material than other flotation systems. To test its efficiency, Washington University graduate students in archaeology placed poppy seeds in the eight-liter samples of dirt to be run through the system. Ninety-three percent of the seeds planted in the dirt were recovered. Further experimentation proved that Watson's method can recover charred remains as small as half a millimeter in size.

After Watson's second season at the shellmound site, archaeobotanists examining the charred remains from flotation samples established that plant
cultivation had occurred along the Green River before 2000 B.C. Ancient peoples inhabiting this part of North America grew squash, and later, sunflowers, sumpweed, and a few other weedy plants. From her findings in Mammoth Cave National Park, Watson determined that prehistoric Kentuckians were harvesting these plants in large quantities and were also heavily dependent on hickory nuts and acorns.

The squash presented Watson with perhaps her most interesting find. She was the first to find third millenium B.C. evidence of squash, a tropical plant, north of its native Mexico. Watson's squash dates back to 2500 B.C., and she believes the plant was derived from eastern Mexico, where it was domesticated. She suggests the squash traveled through Texas, up the Mississippi River Valley to Kentucky. That discovery itself opens a whole new line of questions regarding the acquisition of the plant and the beginning of long-distance trade between groups.

But for the present, that inquiry will be left to others.

As the details of the University discovery were being worked out in the archaeobotanical labs, pothunters arrived at one of the shellmounds. One group of pothunters caught red-handed by the archaeologists falsely claimed to have the permission of the landowner and escaped while this was being investigated. “Although the illicit digging didn’t do serious damage to our research, it worried us a great deal because we realized how indefensible we were,” says Watson. “Located on the river as they are, our sites can be attacked by people coming and going in boats without the landowner’s even knowing they’re around.”

Luck was with Watson’s research group; others have not been so fortunate. An excavation by one of Watson’s graduate students at a cave just outside Mammoth Cave National Park was so badly damaged by local pothunters that the researchers were unable to finish their study. The looters dug through all the previously undisturbed deposits in the cave entrance in search of saleable or collectible “relics.”

“Archaeologists also destroy the deposit by excavating it, but we make very detailed records with every dig,” says Watson. “It takes a long time to document the artifacts and their features and contexts. That one group of looters has made it impossible for us ever to study the little prehistoric community that was once established in that cave entrance. Those data are lost forever.”

On an individual basis, Watson practices what she preaches. She says it does no good to sit back and curse the looters; the best thing to do is to educate the public, and set a good example as a professional archaeologist. “We must try to gain their understanding and cooperation,” says Watson.

In Logansport, the settlement closest to Watson’s shellmound study, the townspeople have a monthly meeting and potluck dinner. Each time that she and her group of researchers are in residence, they are invited to attend the meeting and give a presentation on their progress at the shellmounds. “This is most helpful,” says Watson. “The Logansport people are wonderful, and it’s great that they are interested in knowing the prehistory of their area.”

Others aren’t so concerned. Watson contends that apathy about the Native American past has caused many of the looting problems archaeologists encounter. “As a nation of immigrants, with primarily European heritages, Americans don’t have a vested interest in the ancient people of our country. In Europe the remains of the past represent the remains of people living there,” says Watson. “Europeans have intellectual and emotional ties with their past. That’s cut off in America.”

On a larger scale, this passivity toward the American past is expressed repeatedly through the two practices which seem unrelated, but are not—sale of our nation’s artifacts to foreign countries, and the lack of federal legislation to prohibit plundering of sites on private land. Because the United States is one of the few countries that do not prohibit the “mining” of antiquities from sites on privately owned property, items recovered are often sold through the large international market. The result is that Americans are losing their valuable national treasures. “The archaeological remains found on private property shouldn’t belong to the individual who happens to hold title to the land where they are located,” says Watson. “They are our nation’s past.”

Laws requiring assessment and protection of antiquities found on
such laws passed. The Society for size and strength to lobbying efforts for T director of the Mimbres Foundation. Some archaeologists are finding effe­ sites in the United States.

course of his archaeological research in of the Archaeological Conservancy. leBlanc, Watson's first doctoral student, watson's degree in 1971. During the

Many archaeologists, including Watson, have worked tirelessly to get such laws passed. The Society for American Archaeologists has lent its size and strength to lobbying efforts for more stringent laws protecting sites and regulating the antiquities trade. And some archaeologists are finding effective ways to work within the present laws. An example Watson cited is that of the Archaeological Conservancy.

The Archaeological Conservancy is a nonprofit group that acquires property to secure permanent protection for significant archaeological sites in the United States. It was spearheaded by Steven LeBlanc, a Washington University alumnus and the present director of the Mimbres Foundation. LeBlanc, Watson's first doctoral student, received his degree in 1971. During the course of his archaeological research in the Mimbres region of southwestern New Mexico, LeBlanc encountered the pothunter problem in an especially virulent form. In this area, named for the prehistoric society that inhabited it from 400 to 500 A.D. and famous for the classic pictorial bowls found, pothunters often leased sites from private owners, bulldozed to uncover cemetery areas, then looted the graves of their valuable pots. The Mimbres Foundation was established to purchase and protect private property. In addition, the Foundation succeeded in strengthening state laws governing archaeological looting; as a result, New Mexico is one of the few states to have outlawed bulldozing of archaeological sites.

What the Mimbres Foundation did locally, its offshoot, the Archaeological Conservancy, strives to do nationally. Although the Conservancy has met with wholehearted support from archaeologists, it is still in the early development stage.

Presently there are five federal acts, with public education as a primary goal, that help non-federal agencies acquire sites. These laws all can provide matching grants to preserve properties, but such funding is underutilized because many times archaeologists are unable to raise the required matching funds. In addition, securing approval for acquisition can take more than two years. By that time, the site may be damaged beyond hope of recovery.

The Conservancy, having acquired a site, turns the property over to federal, state, or local agencies (including museums, colleges and universities) to insure proper long-term management. The short-term management is borne by the Conservancy, and here the profes­ sional archaeologists explore the possibility of working with local amateur archaeological societies to watch over acquired sites. "We are trying to incorporate amateurs into our work," says Watson. "This is one way they can be most helpful."

The Archaeological Conservancy has recently made some important acquisi­ tions: the famous Hopewell Mounds Group, near Chillicothe, Ohio, and Savage Cave in Logan County, Kentucky. Hopewell Mounds was the ceremonial center of the Hopewellian civilization, which existed from 300 B.C. to 500 A.D. These mounds represent one of the largest construction projects in North America prior to the nineteenth century. Savage Cave, a National Historic Landmark donated by the property owner, contains deposits that span at least 12,000 years of human history, including the Paleo, Archaic, Woodland, and Mississippian traditions. Louis S. B. Leakey, the internationally renowned anthropologist who examined the cave before his death, said it offered "the greatest potential of finding Paleolithic man on the North American continent." The Paleolithic era covers the period before the last ice age, prior to 10,000 B.C.

"The Conservancy represents the most direct action we can take under current laws," says Watson. "We still have problems with trespassers, but at least we are making some key sites our private property, and that's the best we can do right now."
Jacques Shalo, Cameroon, West Africa, heads the ball as Matt Klosterman, center, and Steve Lewis, right, both St. Louis, look on. All photos are of the Washington University versus Glassboro game.

Amir Yoram, Little Rock, dribbles the ball.
Soccer Bears

This fall, for the third year in a row, Washington University's Soccer Bears were contenders for the national championship of NCAA's Division III. They went to Boston as Division III Midwest-Far West winners and returned with fourth place nationally. The players anguished over their first playoff defeat, for they felt they played badly in the second half of the game against the University of Scranton. Although they also lost on the second day against Glassboro State College, the Bears dominated a hard-fought game and were defeated 1-0. They finished the season 18-7.

In three years the top spot has eluded them. They finished second nationally in 1978, third in 1979. Coach Joe Carenza says he is proudest of his team because of the dedication of the student athletes. "These guys give up a lot and still take a heavy class load and maintain a high grade-point average. As a rule, they really don't receive the public recognition they deserve."

Kevin Boyarsky, Westport, Connecticut, steals the ball as Arthur Jurema, middle, All-American from Caxanga, Brazil, and Mike Feld, back, Wilmette, Illinois, come to his aid. Top left, Phil Beljanski, Granite City, goalie.

Co-captains Matt Klosterman, left, All-American from St. Louis, and Gary Lubin, Roslyn Heights, New York, with the team's new trophy.

In control of the ball is Jeff Leoff, Wilmette, Illinois.
Lewis Thomas, Montaigne, and Human Happiness

By Howard Nemerov
Edward Mallinckrodt Distinguished University Professor

None of you is likely to mistake what follows for the Third Annual Thomas Hall Lecture in Biology; nor, unhappily, is the title “On Nature’s Mistakes” any longer applicable, unless one of them is being exhibited before you at this very moment. Nevertheless, my thanks to Tom Hall and the Department of Biology for letting me fill in by saying a few things about Lewis Thomas, who has been prevented by illness from addressing us this morning. By the way, I am delighted by the poster publicizing the event. Note its visual wit. [The poster ingeniously showed the process of cell division turning into a flower and I said to my hearers that if I ever found out who made it I would shake his hand or kiss her; turned out to be the latter.]

Every so seldom, the reading public leaves off enriching the authors of those large, loose baggy monsters of novels usually advertised as “blockbusters”—though “insomnia-stoppers” would be more appropriate—and puts its money on good sense, great learning, cheerfulness, and charm. This happened several years ago to Dr. Thomas’s first book, and seems to be happening again to his second; we might pause a moment to applaud our own taste and judgment, while wondering a little why we don’t exhibit these qualities a touch more often. Indeed, I came pretty close to not reading The Lives of a Cell in the first place, just because, being a snob, I thought it might be a touch too popular. But curiosity won out, and I started reading, and was hooked. After the first, the title essay, I warned myself to take the book easy: one essay a night, I told myself, would be the only way to do fairly by such a work; so of course during the first night I read through the whole damn thing, about thirty brief essays; and the second night I did the same, and the third night the same again.

By that time even I knew I was beginning to be interested in Dr. Thomas, and as soon as The Lives of a Cell appeared in paperback I ordered it for my class, as I expect to do with The Medusa and the Snail as well, when that gets into paperback. What the class was doing playing hookey from Great Literature and reading a work described as “Notes of a Biology Watcher” is an interesting question chiefly because I can’t answer it. But many years ago a student did a tutorial with me in which we read not whole books but a few sentences: our thoughts about the few sentences made up the tutorial hour; whereupon the student gave me this enlightened definition of reading, “I see what reading is,” she said. “It’s putting together what you’ve got with what it says.” So I put it to the class that we would read aloud from The Lives of a Cell for a few minutes at the start of the hour, the governing rule being that students could stop the reader at any point at which they (a) didn’t understand, (b) wanted further elaboration, (c) disagreed, (d) had something pertinent to add of their own. I hoped that perhaps something of Dr. Thomas’s style might rub off on us, along with his marvelous complex-yet-integrated mode of composition—composition in its literal sense of putting things together, or as Kenneth Burke calls it, What Goes With What? And if an English class happened to learn something about biology—not learn biology, of course, but learn about it—well, that was probably forgivable.

I don’t know whether our results from this exercise show failure or success. For I remember that at our first attempt, instead of the few minutes’ reading we had planned, the hour and a half went by and we hadn’t got quite through the second page. Dr. Thomas not only thinks, he is also the cause that thoughts are in others.

Of course, many of our initial difficulties came from our not knowing the language; the first two pages bring up, quite without explanation except what is supplied by context, such items as mitochondria, prokaryocytes, rhizobial bacteria, and others that had to be explained by one of our few biology students or else looked up. All the same, we already had the sense of being talked to as grown-ups by a grown-up and not by a textbook; and we found it bracing.

Besides, Dr. Thomas’s method of instruction is itself instructive, organized on a sort of musical contrapuntal model, something like a passacaglia with melodic variations played over a more or less constant progression in the ground, so that if something eluded or baffled us on its first appearance, we had but to wait a bit for it to turn up in several new forms, or be introduced from several new angles and in new applications. For instance, when we predictably broke down at the phrase “opaque to probability” on the very first page, my having run the book through several times was a help, as I could direct the class’s attention ahead some twenty pages to where the phrase was elaborated,
Late last January, Lewis Thomas, president of the Memorial Sloan Kettering Cancer Institute and noted medical essayist, was to have given the Biology Department's Thomas Hall Memorial Lecture. Thomas became ill and in his stead poet Howard Nemerov volunteered to deliver an appreciation of Thomas.

and again two dozen essays further on, where an entire piece was given over to the discussion of how improbable we are. Perhaps this very point, our opacity in the face of "opaque to probability," offers a good opening illustration of Thomas's combinatorial style:

If, as I believe, the urge to make a kind of music is as much a characteristic of biology as our other fundamental functions, there ought to be an explanation for it. Having none at hand, I am free to make one up. The rhythmic sounds might be the recapitulation of something else—an earliest memory, a score for the transformation of inanimate, random matter in chaos into the improbable, ordered dance of living forms. Morowitz has presented the case, in thermodynamic terms, for the hypothesis that a steady flow of energy from the inexhaustible source of the sun to the unfilled sink of outer space, by way of the earth is mathematically inevitable that it must rearrange matter into molecules of higher and higher complexity, and the emergence of cycles for the storage and release of energy. In a nonequilibrium steady state, which is postulated, the solar energy would not just flow to the earth and radiate away; it is thermodynamically inevitable that it must rearrange matter into symmetry, away from probability, against entropy, lifting it, so to speak, into a constantly changing condition of rearrangement and molecular ornamentation. In such a system, the outcome is a chance kind of order, always on the verge of descending into chaos, held taut against probability by the unremitting constant surge of energy from the sun.

If there were to be sounds to represent this process, they would have the arrangement of the Brandenburg Concertos for my ear, but I am open to wonder whether the same events are recalled by the rhythms of insects, the long, pulsing runs of birdsong, the descants of whales, the modulated vibrations of a million locusts in migration, the tympani of gorilla breasts, termite heads, drumfish bladders. A "grand canonical ensemble" is, oddly enough, the proper term for a quantitative model system in thermodynamics, borrowed from music by way of mathematics. Borrowed back again, provided with notations, it would do for what I have in mind.

What a splendid bargain we get in a passage like that! Before reading it, we had just one thing we didn't understand, and now we have ten more. But that is the way we learn, really; by listening to the great conversation, parroting the big words, making the truly interesting mistakes that may turn into discoveries; understanding comes along later. In this way we imitate, however feebly, our first and greatest intellectual achievement, learning to talk, which we did in our first few years—beginning, indeed, when we wouldn't say a word—and without even taking a course of lessons from Berlitz or going to a university. After that, we were schlepped off to school—shades of the prison house surround the growing boy and girl—and taught, with Miltonic labor and difficulty, the visual equivalents for the sounds we had been making so effortlessly all along. What a pair of triumphs! No wonder if after two such victories we slump our heads down on the desk and accomplish nothing further all our lives save sit around and listen to our hair grow. But that's another story.

Returning to the passages I read, there are several things to be remarked. One is the ease and authority of the style. Another is the learning, and above all the valency of the learning, that makes it possible. The whole paragraph is chockablock with information. It would be tempting to imitate, we may think; but if we tried to do it without the learning we'd probably not get through a single paragraph before noticing that we were like little Disney animals who stand safely on a branch that's been sawn off, but only until they look down. Another thing to remark on is music, one of Thomas's big and constant analogies; the equation of music, but especially Bach's music, to thought occurs over and over again. That's why I have today asked the organist to supply a couple of examples for us. Dr. Thomas recommends St. Matthew Passion, with the volume turned up all the way, if we want to hear thought thinking itself; but what does it for me is the Mass in B-minor, so because I am the one doing the show today I asked for the Gloria, with its wonderful fugue on Et In Terra Pax, and the Domine Deus. In the Domine Deus, the alto first sings to God the Father while the tenor sings in canon with her to God the Son; so that we happily infer without strain that the orchestra is singing to the Holy Ghost, completing the contrapuntal Trinity.

Here is another bit about music, about Bach. Thomas has been talking about communication with extraterrestrial civilizations, about an international program "to probe the reaches of deep space for electromagnetic signals making sense." And then he characteristically and, to my knowledge, uniquely, raises the dumbfounding question
of what out of the world we’re going to say to the other civilizations out there (assuming there are some; I think, myself, that never in the history of the world has anyone been alone the way we’re alone; but that too is another story); and here is his recommendation:

Perhaps the safest thing to do at the outset, if technology permits, is to send music. This language may be the best we have for explaining what we are like to others in space, with least ambiguity. I would vote for Bach, all of Bach, streamed out into space, over and over again. We would be bragging, of course, but it is surely excusable for us to put the best possible face on at the beginning of such an acquaintance. We can tell the harder truths later. And, to do ourselves justice, music would give a fairer picture of what we are really like than some of the other things we might be sending, like Time, say, or a history of the U.N. or Presidential speeches. We could send out our science, of course, but just think of the wincing at this end when the polite comments arrive two hundred years from now. Whatever we offer as today’s items of liveliest interest are bound to be out of date and irrelevant, maybe even ridiculous. I think we should stick to music.

Music is one of the big and constant analogies for our author. The other two are bugs and words. Now I suppose that if I started out to give you a lecture on termites and suddenly began talking about language, you would charitably conclude that my senility was showing, or that I had merely confounded entomology with etymology. And you’d probably be right; it’s one of the unforeseen disabilities of teaching as a profession that when senility sets in it happens in public. But when Dr. Thomas does it, somehow, he makes the resemblance work strikingly to illumination.

... but if you think about the construction of the Hill by a colony of a million ants, each one working ceaselessly and compulsively to add perfection to his region of the structure without having the faintest notion of what is being constructed elsewhere, living out his brief life in a social enterprise that extends back into what is for him the deepest antiquity (ants die at the rate of 3-4 percent per day; in a month or so an entire generation vanishes, while the Hill can go on for sixty years or, given good years, forever), performing his work with infallible, undistracted skill in the midst of a confusion of others, all tumbling over each other to get the twigs and bits of earth aligned in precisely the right configurations for the warmth and ventilation of the eggs and larvae, but totally incapacitated by isolation, there is only one human activity that is like this, and it is language.

We have been working at it for what seems eternity, generation after articulate generation, and still we have no notion how it is done, nor what it will be like when finished, if it is ever to be finished. It is the most compulsively collective, genetically programmed, species-specific, and autonomic of all the things we do, and we are infallible at it. It comes naturally. We have DNA for grammar, neurons for syntax. We can never let up; we scramble our way through one civilization after another, metamorphosing, sprouting tools and cities everywhere, and all the time new words keep tumbling out.

If one had to pick a single motto for the procedures of this kind of analogical, several-leveled and four-voiced kind of thought, it might be Dr. Thomas’s saying—about every relation in the universe—“I suggest…we turn it around.” Instead of trying to have thoughts about music, start with music as the model for thought. Ants and termites are not miniaturized human beings, but human societies have remarkable resemblances to insect societies. We make language in rather the way termites build their mounds. And so on.

Counterpoint is but one aspect of the process of combination, separation, recall, and recombination. Dance is only one aspect of the movement. The darting forward to meet new pairs of notions, built into new aggregates, the orbiting and occasional soaring of massive aggregates out of orbit and off into other spaces, most of all the continual switching of solitary particles of thought from one orbit into the next, like electrons, up and down depending on the charges around and the masses involved, accomplished as though by accident but always adhering to laws—all these have the look of music. There is no other human experience they can remind one of.

I suggest, then, that we turn it around. Instead of using what we can guess at about the nature of thought to explain the nature of music, start over again. Begin with music and see what this can tell us about the sensation of thinking. Music is the effort we make to explain to ourselves how our brains work. We listen to Bach transfixed because this is listening to a human mind. The Art of the Fugue is not a special pattern of thinking, it is not thinking about any particular thing. The spelling out of Bach’s name in the great, unfinished layers of fugue at the end is no more than a transient notion, something flashed across the mind. The whole piece is not about thinking about something, it is about thinking. If you want, as an experiment, to hear the whole mind working, all at once, put on The St. Matthew Passion and turn the volume up all the way. That is the sound of the whole central nervous system of human beings, all at once.

To me, this sort of thing represents the revitalized return of the polyvalent, polysemous kind of thinking you can hear in The Paradiso, even perhaps, attenuated, in The Tempest, and which tended so to go under during the scientific revolution before the new linear logic—sponsored by, among others, Blake’s favorite villains: Bacon & Newton & Locke. But as Blake forgave that demonic trinity at the end of Jerusalem, so the old contrapuntal and deeply physical style of thinking now comes back redeemed by the addition of so much that has been learned during the intervening centuries. What a fascinating theme! But I must get on to the second and third items of my title. Edward O. Wilson, on the dust jacket of The Medusa and the Snail, says that if Montaigne had possessed a deep knowledge of twentieth-century biology, he would have been Lewis Thomas. Something about this comparison, or the way it is put,
strikes me as strained, perhaps because the earlier man ought always to be given the advantage of being the compared to, not the comparative. But perhaps bug-scholars, because they study such small things, are given to grandiose comparisons; one of Professor Wilson's precursors in entomology, William Morton Wheeler, was described by one of his colleagues as the only living human capable of conversing on equal terms with Aristotle. I take "only living human" to be Cambridge shorthand for "only living human on the Harvard faculty"; but never mind.

There's something to the comparison all the same. When I couldn't get The Medusa and the Snail for my class last term, I—as if naturally—got a selection of Montaigne's essays instead. And Dr. Thomas's affection to Montaigne comes up in a friendly essay called "Why Montaigne Is Not a Bore." The idea is that as Montaigne wrote always and only about himself he ought to have been a bore merely by definition; but he isn't, and the reason is that he was the scientist of himself; as Dr. Thomas says of him:

He is, as he says everywhere, an ordinary man. He persuades you of his ordinariness on every page. You cannot help but believe him in this; he is, above all else, an honest and candid man. And here is the marvel of his book: if Montaigne is an ordinary man, then what an encouragement, what a piece of work is, after all, an ordinary man! You cannot help but hope.

I think the appropriate basis of comparison here is happiness: "For my part," says Montaigne in age and pain, "I love life and cultivate it." And again, in age and pain, "I speak ignorance opulently and pompously, and speak knowledge meagerly and piteously...there is nothing I treat specifically except nothing, and no knowledge except that of the lack of knowledge." Again, "Wonder is the foundation of all philosophy, inquiry its progress, ignorance its end."

Happiness is a difficult and dangerous subject, especially before an audience of youngs, the brightest of whom are probably just discovering the human condition. Fathers assert our right to pursue the stuff. Maybe it's just as well, even if the Founding Fathers assert our right to pursue the stuff. Maybe it's significant that the U.S. Air Force designation P for Pursuit aircraft faded out about 1945 or so, to be replaced by F for Fighter.

But happiness, like philosophy—if indeed it isn't just what Socrates meant by philosophy—begins in wonder, in simple amazement (which means being lost in a maze) or astonishment (which means being hit by lightning and the all-dreaded thunder stone) that things are exactly as they are.

And now this piece about Lewis Thomas's essays has gone on so much longer than one of his essays as to be a disgrace. I conclude, for no good reason at all, with my one homemade Jewish joke:

Why did God permit evil in the world?
God permitted evil in the world so we could all have jobs.
Aha! then what about unemployment?
So evil he didn't make perfect either.

And we may hope that next year Dr. Thomas will be here to give us the word "On Nature's Mistakes."
A Gallery of Trustee Profiles

Donald Brandin

Donald Brandin, chairman of the board and chief executive officer of Boatmen's Bancshares, Inc. and the Boatmen's National Bank of St. Louis, says, smiling wistfully, "None of my kids want to do what I do. They think I have a dull job." But he does not. In banking he has found not a black and red world of credits and debits but the varied, fascinating existence of a generalist.

When Brandin speaks of banking, he speaks thoughtfully, as a humanist. "Banking is all relationships," he says, "with all sorts of people, with corporations, and with other institutions. I get a chance to meet and do business with many interesting people in all walks of life. I get to know why and how things are made, how things happen. It is a very interesting, tremendously varied job."

In fact, Brandin has not one position, but two. He heads Boatmen's Bank, one of the oldest and largest financial institutions in the state, and Boatmen's Bancshares, Inc., a holding company which includes the parent St. Louis institution and a group of some thirty other banks throughout the state. In addition, like many busy corporate executives, he devotes a good deal of time to civic leadership, including his service as a trustee of Washington University.

For these reasons he counts as easy a day in which he spends ten hours in his office and is free to head for home in the evening. "Those days are rare," he notes, for his participation in community activities and as a board member and officer of various St. Louis-based corporations devours three or four nights a week. Chief among his preoccupations presently is his chairmanship of the Arts and Education Council of Greater St. Louis. He also serves as an officer in Civic Progress and as a board member of organizations such as the Boy Scouts, the St. Louis Symphony Society, the YMCA, and St. Louis University.

Brandin came both to banking and St. Louis by heritage and by design. He was born and raised in suburban New York. His father, who was a banker, died while Donald was overseas during World War II. Upon discharge from the Army, into which he had enlisted and began job hunting, "I really had no idea what I wanted to do. The Army had kept me in college a year to finish my degree on an accelerated program, but I had a liberal arts degree with a history major and no professional predisposition. I took a little vacation, then one day I got on the train to the city to talk to some old friends of my father's. There seemed to be no trouble getting a job—almost everyone offered me one—but I was trying to find a good starting place. I stumbled into banking and decided upon that because it seemed the one line in which I could pick up general knowledge that would translate into something else if I decided I didn't like banking."

He joined an intense traineeship at Bankers Trust Company in New York in 1946. In a decade, as an officer in its commercial banking division, he began to be wooed for the number two spot in Boatmen's commercial operation. "I knew a lot about Boatmen's; we had worked closely together and my father had been a good friend of its chairman, but I really wasn't interested."

But Boatmen's persisted and upon recommendation of his boss, Brandin came to St. Louis to look, just to be sure that he would not wonder for the rest of his life what he had turned down. He and his wife, Yvonne, liked what they saw and he accepted the offer.

"My life has been very straightforward," he says. "I think those persons who follow an entrepreneurial path can have led very colorful lives, but the corporate structure requires a disciplined, professional, perhaps somewhat plodding approach. Those people whom I know who have become chief executive officers have been very dedicated and worked hard to educate themselves, recognizing the need for both. They've simply plowed their way through the management echelon."

While the Brandins' children were at home, his business responsibilities were less and he spent much more time with the family. "I have only become so heavily committed both to business and the community since that time," he notes. "The timing was very good."

His elder son is employed by McDonnell Douglas Corporation, his daughter is an attorney in Chicago, and his younger son, an engineer by education, is "in the midst of changing his career path," says his father.

"My impressions of Washington University have been considerably strengthened since I joined the board," he notes. "I had always considered it a good school, but I am finding it a better school than I thought. I think generally that the community as a whole does not rate it highly enough. Perhaps correcting that impression is one of the responsibilities of the board members."
Louis S. Sachs

In 1967, few St. Louisans could imagine the metropolitan area extending much west of Lindbergh Boulevard. In the Chesterfield-Rockwood area bisected by Highway 40, the bluffs overlooking Missouri River bottomlands held only farmhouses, narrow roads, and sleepy gas stations. Only the farsighted could recognize the boom in residential and business development that was to come.

One observer who matched imagination with finances was Louis S. Sachs, president of Sachs Properties and a member of the Washington University Board of Trustees. He began acquiring pieces of the rolling Missouri hills until he had accumulated a parcel of 1500 acres. Then he began Chesterfield Village, St. Louis's only self-contained and wholly planned business, residential, and retail community.

Today, four years after the opening of the first building, a 750,000-square-foot shopping mall, Chesterfield Village includes six office buildings occupied by eighty businesses, 150 townhouses and homes, the first of three small village centers, a tennis club, and a recreation center. The complex, which is just a beginning, has won numerous awards from builders and civic groups. The operational, though not the geographic, axis of this development is a spacious three-story, natural wood-stained building housing Sachs Electric, of which Louis Sachs is chairman of the board, and Sachs Properties, which he serves as president.

The building’s lobby is airy and sunlit, and its spaciousness is repeated in Sachs’s office, where weavings, sculpture, and ceramics are displayed. Sachs waves away inquiries about their origins, much as some anonymous decorator may have once waved away his opinions. Instead, he tells an amusing story about the life-sized color print of a man crouching on a window—so uncannily realistic that police answering a burglar alarm one night drew their guns when they came upon it. Another favorite piece, a six-foot-long model of a Boeing 707 poised in mid-air, reflects Sachs’s love of flying.

Mild-spoken and sparing in conversation, Sachs is like an unobtrusive but watchful parent who allows his real estate project—a precocious adolescent—to speak for itself. Moreover, he seems undaunted by the immensity of the project.

“We started this project in 1967. You can see what’s here now, and only about 100 acres have been developed. The project might be equivalent in size to the city of Clayton, but that didn’t get accomplished in just ten years. To get this far has taken a total commitment.”

After graduating from Washington University in 1948 with a bachelor of science degree in electrical engineering, Sachs worked with his father, the late Samuel C. Sachs, in the family electrical contracting company. He says he acquired a taste for good architecture through contact with buildings designed by the late Harris Armstrong, a Washington University alumnus. In 1961, the younger Sachs charted a new path for the family business by building several structures in the St. Louis area. In this, he experienced firsthand the results of capricious, piecemeal planning.

“Everytime we built a building, there was someone nearby who was building something we didn’t like. That’s why we decided to develop and plan a large tract of land. Once a plan is made and zoned, there can be no complaints. Traffic can be controlled, so there is no problem of having congestion build up and then trying to accommodate it. Call it a dictatorship if you want,” he added with a smile, “but it works.”

When Sachs turns his gaze from Chesterfield Village’s 1500 acres to Washington University’s 2267, it is not surprising that he regards them in much the same way. “Washington University is an educational institution, but it’s also a large business which must be operated toward the interests of the customer—the student. Some people don’t like to look at it that way—as a business—but it is a large-budget operation which is very diverse.” He added, with a slight grin, “It’s a bigger business than mine.”

Sachs believes that his role as a member of the Student Affairs Committee is to be sensitive to the needs of that student “customer.” “College life and studies are much different from when I was in school. The board needs to be aware of what students are thinking, what they like and don’t like. It’s easy for people as old as board members to lose contact.” Sachs is also a member of the Building and Grounds Committee.

For the present, he likens the University’s challenge to that facing the housing industry: maintaining a balance between a high-quality product and the demands of the marketplace.
University Relations: A Ten-Year Report

Herbert Hitzeman looks back on the decade just ended to assess the impact of the University’s long-range development plan. He has been the University’s chief development officer since 1968 and was named vice chancellor in 1974.

As Washington University enters the 1980s, its position as one of America’s major independent research universities is more firmly established than ever before. Central to its strength are faculty, student body, academic programs, research activities, and physical plant of high quality.

While the excellence of many of Washington University’s programs has long been recognized, its achievements since the 1950s are especially noteworthy. In these three decades, the University has achieved national stature in nearly all of its endeavors. This remarkable progress required the dedication and energy of hundreds of men and women. That so many have participated so generously is testimony to the vision of the founders and its continuity through many generations.

Of particular importance to Washington University as an independent institution has been the growth in the number of individuals and organizations who contribute the financial resources to support the University’s progress. Although the tradition of American philanthropy is long-standing, that support is neither automatic nor guaranteed. Only when those outside understand and believe in the purposes and accomplishments of the institution will they invest in its future. Only when they are given the opportunity to participate meaningfully, with assurance that their philanthropic intentions will be carried out, will they commit themselves to regular and generous support.

A university can no longer expect to meet its budgetary needs through dramatic support from a few exceptionally wealthy patrons. Today, it must find a broader base of support. If it is to be successful in securing the understanding and resources it requires, it must devise and manage a logical, coordinated, and extensive program of communications and fund raising, involving many volunteers and a professional staff.

The University’s success in the 1980s and beyond is inexorably related to its abilities to attract financial support. This report will review those abilities, with special focus on the progress and accomplishments of the 1970s, for it is on that foundation that the University must build.

As recently as the early 1960s, the Office of University Relations at Washington University was not a contemporary, organized operation. Like many institutions of that era, the University was able to attract private gift support with relative ease. Or so it seemed.

In the early 1960s, higher education was expanding rapidly. Students were plentiful, the federal government was generous, the national economy was manageable. Washington University was developing a national role. New housing was constructed to accommodate more students from outside the St. Louis region. Distinguished scholars joined the faculty. Facilities were expanded to support significant new research programs. Academic programs were enhanced. And the dollars were found to make it all happen.

As a result, the functional areas of University Relations grew and changed in an almost unplanned manner. Professional staff, along with new programs to improve development and public relations activities, were added on an “as needed” basis. But there was no coordinated program utilizing all advancement resources in a focused effort.

Washington University began the
1960s with operating expenditures of $20.6 million and gift support, including bequests, of $6.2 million. By the end of the decade, its operating expenditures had risen to $63.4 million and gift support, including bequests and Ford Foundation funds, was $16.7 million.

But the growth of gift support during this period did not follow a straight line. By the middle of the decade, operating expenditures were rising at an annual rate of approximately 12 percent, while gift support was remaining essentially static, even dropping to $4 million during fiscal 1962.

As a result, and with the encouragement of a Ford Foundation Challenge Grant, the University in 1965 launched "Seventy by Seventy," a major capital campaign to raise $70 million by 1970. The campaign was successful. Even with involvement of a minimum number of volunteers, the goal was reached in 1969 and the campaign ended one year ahead of schedule.

Nevertheless, a number of serious weaknesses in the structure of the University's advancement program and the relationship of the University to its constituencies had become apparent. The relatively small number of donors (15,595) to the campaign demonstrated clearly that the University was dependent on a narrow base of support. For example, the percentage of Washington University alumni contributing, even during the campaign years when increased giving was especially urged, remained well below that of comparable universities. Slightly more than 19 percent of the University's alumni contributed in 1966, the second year of the campaign. By 1969 that level had shrunk to 14 percent.

Structures were needed to encourage more alumni participation, especially as the University took on a greater national character, and the alumni body became more widespread. Similarly, it became evident that the University needed to improve communications and develop closer relationships with other constituencies. Support from corporations, friends, and other organizations rose only slightly throughout the decade. A comparison of the average total gift support by sources during the first half of the decade with the average during the campaign years shows that corporate giving rose from $1 million to $1.7 million, friends from $1.3 million to $1.7 million, and other organizations from just under $1 million to $1.25 million.

While foundation support of the University rose dramatically from an annual average of $1.2 million in the first half of the 1960s to $5.7 million in the second half, the increase was almost totally accounted for by the leadership of the Ford Foundation.

A problem in the communications efforts of the University also became apparent during the 1960s. The movement toward national recognition brought about significant changes throughout the University, particularly in its professional schools. Even so, public understanding of the University continued to reflect its earlier position. Because long-standing public perceptions are slow to change, the University could not immediately impress upon its constituencies its changing nature and the impact of the $70 million campaign on its growth.

At the same time, the volatile nature of American society and of college students during the late 1960s brought widespread public disenchantment with colleges and universities. Washington University did not escape this concern; it was faced with a growing negative attitude toward it by many among the public and its own constituencies. Much effort had to be devoted to reacting to events on campus and to rebuilding public trust and pride in the institution.

Nevertheless, Washington University closed the decade on a reasonably sound footing. The market value of its endowment had grown from $88.8 million in 1960 to $135.7 in 1969, and its plant facilities expanded in value from $39.5 million to $93.2 million. During the same period, full-time enrollment grew from 5,862 to 7,224; and, while tuition increased from $900 annually to $1,900 annually, scholarships, fellowships, and other awards granted annually rose from $701,000 to $4,4 million.

Gifts from private sources during the decade totaled $91.7 million, including Ford Foundation funds. But the uncertainty of the University's ability to maintain a much-needed higher level of gift support called for significant changes in the organization and operation of University Relations.

The participation of the University's constituencies during the Seventy by Seventy campaign was analyzed carefully to prepare the new development plan. It became apparent that the potential support of each group was far greater than the actual support. While alumni had contributed $5.34 million, only 27 percent of the University's living alumni made gifts during the four years of the campaign. Corporations had given $9.61 million, but only 602 corporations had participated. Most of the support during the campaign had come from foundations ($27.92 million) and friends ($26.1 million). However, in both cases the number of donors participating (101 foundations and 1,841 friends) had been far below potential. Parents of Washington University students were only minimally involved in the campaign effort and only 128 parents had contributed $25.944.

While the University's staff was working successfully with the various constituent groups, it became clear that essential volunteer leadership was not available in significant numbers and that overall efforts were not fully coordinated.

To provide leadership and coordination, the new plan called for a major revision of the Development Committee of the Board of Trustees, including the establishment of specific councils within that committee. Chaired by trustees and including non-trustees, the
councils were to focus on major areas of development activity and were to coordinate and recommend policy for fund raising and public relations. These councils were identified as Alumni, Friends, Business and Industry, Foundations, and Public Relations.

With the new plan and leadership in place, the University's public relations and fund raising efforts were directed toward the goals and objectives of the 1970s.

During the '70s, dramatic changes took place in the relationship between the University and its alumni. The old Alumni Federation was dissolved and an Alumni Board of Governors was established in its place. The alumni board was to increase alumni involvement in the affairs of the University.

Specific committees of the Board of Governors were organized to bring more alumni into leadership roles and to address the needs and interests of both the alumni and the University. The alumni programs committee was to develop, coordinate, and evaluate a program of general and special activities to broaden alumni involvement and to promote a better understanding of the University. The alumni/student relations committee was to promote interaction and better understanding between alumni and students. To encourage greater alumni gift support, the alumni board created a current funds committee, later designated the alumni annual fund committee. Another committee was to encourage long-term giving through estate planning and deferred gift opportunities. And, finally, a parents committee was to stimulate involvement in and support of the University by parents of undergraduates.

The alumni board and its committees began immediately to identify activities and projects which could strengthen alumni ties. The efforts of each committee reinforced the others, and, by the end of the 1970s, alumni across the nation were involved in greater numbers and in a wider range of supportive activities than ever before.

In the early '70s there were no regular, organized activities for alumni in cities outside of St. Louis. By the end of the decade, Alumni Councils were active in thirty-one major American cities. This broadened base, coupled with the expansion of the alumni governing board from a small group of St. Louis alumni to 100 alumni from all over the country, reflected the University's national scope.

Other significant program changes were made. A new direction given to Founders Day, during which distinguished alumni and faculty members are honored by the Alumni Association, increased attendance from less than 500 to approximately 1000. The traditional reunion program, revitalized and brought back to the campus for the first time in more than twenty-five years, increased attendance from fewer than 300 to more than 500. Alumni were asked to assist in the recruitment of students, and hundreds participated each year in this important endeavor. A continuing education program was launched; a series of dinners and awards ceremonies for many of the University's schools was begun, a program of activities designed especially for young alumni was started, tours and insurance programs were made available. Each new program made it possible for more alumni to participate in the ongoing life of the University.

Communications with alumni were also strengthened. The University's Annual Report was distributed to all alumni. The chancellor and the deans provided information about events and activities through special reports and letters. Members of the University family, including the chancellor, administrators, and faculty, participated in a growing speakers program and appeared before groups on campus and at Council City meetings. As a result, alumni understanding of the University's accomplishments and objectives was heightened.

Concurrently, the fund-raising program among alumni was significantly strengthened. Special emphasis has been given to expanding the University's giving clubs, which not only serve to encourage increased giving but also are a way for the University to acknowledge those leadership gifts. Membership by alumni in all of the giving clubs rose dramatically during the decade. For example, membership in the Eliot Society, which recognizes annual gifts of $1000 or more, rose from 168 in 1970 to 476 in 1979. Similarly, in 1970, there were five century clubs with a total membership of 1,413. By 1979, the number of giving clubs had grown to twenty-five with more than 4,500 members.

The focus of the fund-raising program shifted during the decade from one which emphasized support of the University in general to one which emphasized support of individual schools. As it became more apparent that alumni ties were strongest with their schools, and as the schools themselves developed well-defined goals, the new focus strengthened the impetus for participation in the annual fund program. In 1970, 5,513 alumni, just 11.3 percent, contributed to the University. In 1979, alumni donors numbered 15,761, or 26 percent.

Introduction of the phonathon supported the new focus. In 1974-75, 6,000 alumni were telephoned at their homes by some 300 alumni and student volunteers during twenty-five phonathon sessions. As a result, 2,273 gifts, totaling $31,866, were received. Four years later, 27,000 alumni were contacted by some 1,100 volunteers during ninety-three phonathons, resulting in 7,924 gifts totaling $162,299. The phonathons, held in St. Louis and across the country in Council Cities, provide a direct, personal link for alumni and have not only increased alumni giving but have greatly improved communication with alumni.

Estate planning took on a new importance during the decade. Under the leadership of the deferred giving committee of the Alumni Board of Governors, a comprehensive program of information and assistance has been developed to increase the opportunities for alumni and friends to support the University through a range of deferred giving options. A quarterly newsletter is published, personal counseling is provided, and an annual Estate Planning Seminar has been launched. In 1979 this seminar attracted more than 400 alumni and friends. During the decade, 146 life income gifts, totaling $4,19 million, were received. From 1970 to 1979, the University received more than $40.57 million through bequests.

By the end of the decade, the efforts of the Alumni Board of Governors, of an expanding group of other alumni
volunteers which had grown from some 200 in the early '70s to nearly 3,000 in 1979, and of the University's alumni and development staff had brought about greater alumni understanding and support than ever before in the University's history.

The Business and Industry Council was organized at the beginning of the decade to (1) broaden the base of corporate support beyond the St. Louis area, (2) increase total corporate support, and (3) increase the unrestricted share of that support. New programs of communication and recognition were launched, including an annual luncheon which attracts more than 100 top executives of donor corporations. During the 1970s, by building on the foundation of the Seventy by 'Seventy campaign, the 1960s ratio of 80:20 support between St. Louis and non-St. Louis corporations was shifted to 70:30. Total corporate support increased from $1.5 million in 1970 to $3.5 million in 1979. Unrestricted corporate support rose significantly, from $482,000 in 1970 to $1.2 million in 1979.

The Friends Council and the Foundations Council organized programs to improve communication and increase volunteer leadership. Sound progress in establishing more effective and consistent relationships was made with both constituent groups during the 1970s.

The organization of the Public Relations Council did not occur as early as the other councils. Although the office of public relations maintained a program of communications with the University's constituencies and the public, it was not until 1975 that it became part of the coordinated University Relations structure.

**Gifts and Grants from Private Sources**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Ford and Danforth Foundations</strong></td>
<td>231.8</td>
<td>200</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>91.7</td>
<td>18.8</td>
</tr>
<tr>
<td><strong>Foundations</strong></td>
<td>26.7</td>
<td></td>
</tr>
<tr>
<td><strong>Corporations</strong></td>
<td>29.4</td>
<td>100</td>
</tr>
<tr>
<td><strong>Alumni and Individuals</strong></td>
<td>77.5</td>
<td>50</td>
</tr>
<tr>
<td><strong>Alumni and Individuals</strong></td>
<td>38.7</td>
<td>0</td>
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</tbody>
</table>

The development plan had been in effect only three years when, in 1973, the Danforth Foundation offered to contribute $60 million to endowment if, in five years, the University could raise an additional $60 million from other private sources. These funds could be used for other University purposes.

Because the way had been prepared—the councils were functioning and volunteer leadership had increased significantly—the University was able to meet the Danforth Foundation challenge in three years, announcing its success in 1976. This achievement demonstrated the effectiveness of the new organization and focus of University Relations.

A brief comparison of the Danforth Foundation challenge program with the Seventy by 'Seventy program highlights the University's strengthened position. The closing years of the 1960s, when Seventy by 'Seventy was in progress, were years of relative affluence. Even with the stress of the Vietnam war, the economic psychology in America remained positive. The Danforth Foundation challenge had to be met in the recession period of the mid-1970s, when the economy was under severe strain. Nevertheless, it was met in three years, compared to four years for Seventy by 'Seventy. More striking, however, was the dramatic increase in the number of donors. During the three years of the Danforth Foundation challenge, 24,370 donors contributed, compared to 15,595 donors during the four years of Seventy by 'Seventy. This 56 percent increase showed clearly that the base of support for Washington University had already widened significantly.

In the mid-70s, two other important changes helped strengthen the communications and fund-raising program of the University. Public Relations became part of the total University Relations area, and development activities were restructured to serve directly the schools and major units of the University.

In 1975, the University Relations office was given administrative responsibility for public relations. The elements for a coordinated advancement program were brought together and work was begun to create a comprehensive public relations strategy.
The technical areas of media relations, publications, photography, and special programs were consolidated under a central public relations office to serve the needs of the entire University. A new institutional identity program was devised to bring a unified and consistent appearance to the graphics and publications of the University; new relationships were established with the national media; local and hometown publicity was increased; editorial policies for the University's quarterly and annual publications were reviewed and redefined; and new publications were created to interpret the institution more effectively for specific publics.

In addition, a Speakers Bureau was organized; filmstrips for local and national viewing were produced; and coordination of the weekly campus-wide lecture program, the Wednesday Assembly Series, was provided.

Also developed by and coordinated through the University Relations office were reports on the use of gifts, special year-end communications, the publication of honor rolls for annual giving and the Danforth Foundation challenge program, speakers for Council City meetings, the Alumni Lecture Series, and other programs.

By the end of the '70s, the transition of public relations into the advancement branch of the University was completed, and the communications effort of the University was providing important and direct support to the objectives of University Relations.

During this same period, the fund-raising structure of the University was redefined and redirected. Although the importance of building ties between alumni and their schools was recognized early and programs had been created to further those ties, fund-raising programs with other constituent groups were centralized and generally University-wide.

Following the success of the Danforth Foundation challenge, it became clear that relations with corporations, parents, friends, foundations, and other organizations also could be strengthened by more direct ties with the school or unit related to their interests.

As a result, the entire structure of the alumni and development offices was revised so that fund raising from all sources could be coordinated and
administered in direct support of a school or unit. Development officers were assigned to one or two schools or units and given full responsibility to manage total development programs for these areas, utilizing all potential sources of gift support. Coordination of the new program, as well as support services, remained centralized, but responsibility for analyzing needs, identifying priority sources, developing appropriate appeals and proposals, and maintaining ties with donors and potential donors shifted to the schools development officers.

With this new structure, it became possible to work more closely with deans, academic vice chancellors, and faculty to identify needs and match these effectively with the interest of potential donors and other funding sources. Overall planning and review became more logical and consistent.

By the end of the 1970s, the structure of University Relations had achieved a unified, concentrated form. It was then in a position to provide opportunities for the University's constituencies to become involved with the University in ways more supportive of both the University's needs and the donors' interests.

Even with the demands of altering the University's approach to institutional advancement and successfully matching the Danforth Foundation challenge grant, other development needs were met successfully. Multimillion-dollar campaigns were completed for the Irene Walter Johnson Institute of Washington University's School of Medicine, and for Mallinckrodt Center, which houses Edison Theatre. And, by the end of the decade, a $6 million capital campaign to support the School of Engineering's Facilities Improvement Plan was nearing completion.

In 1977, a major conference was held for members of the Board of Trustees of Washington University. The Greenbriar Conference informed all trustees of the University's progress, including an update of the development plan of the 1970s, and provided the opportunity to begin planning for the future.

Many factors affect the total gift support Washington University receives in any given year. Campaigns and payments of challenge grants increase the total in certain years. In addition, the amount of bequests received varies considerably from year to year. Thus, a graphic presentation of gift support to Washington University through a ten-year span includes peaks and valleys. Even so, benchmarks to plot this growth through the 1970s can be noted.

Having successfully completed a $70 million campaign, Washington University entered the decade with a new development plan to broaden the base of support and to increase the level of giving from all sources. It faced these objectives during a decade in which the American economy was uncertain and severely strained. Its record is impressive.

Washington University's total operating expenditures rose from $66.54 million in 1970 to $163.79 million in 1979. The market value of its endowment rose from $117.98 million to $226.46 million. Full-time enrollment rose from 7,319 to 8,419.

Alumni Giving
DOLLARS (Millions)

<table>
<thead>
<tr>
<th>Fiscal years ending June 30.</th>
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<tbody>
<tr>
<td>1980</td>
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<td>1978</td>
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<td>1977</td>
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<td>1976</td>
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While the basic undergraduate tuition rose from $2,100 to $4,300, scholarships, fellowships, and loans granted rose from $7,93 million to $12.27 million.

Gifts from private sources during the decade totaled $231.8 million, including Ford and Danforth foundation challenge grant funds. Total gifts and bequests received varied each year throughout the period, but by removing certain extraordinary gifts, a more accurate picture of the success of the program can be drawn.

Gift support of Washington University, excluding bequests and grants from the Ford and Danforth foundations, rose from $7.99 million in 1970 to $14.78 million in 1979, an increase of 87 percent. Within that total, the amount of unrestricted gifts, excluding challenge grants and the medical-teaching fund, rose from $1.3 million to $2.9 million, an increase of 123 percent.

Alumni participation increased dramatically through the decade. In 1970, 5,513 alumni contributed $771,000. In 1979, 15,761 alumni contributed $4.44 million. The percentage of alumni contributing to the University rose from 11 to 26 percent. Among ten of the major American private research universities, Washington University began the decade a distant tenth in terms of alumni participation. By 1979, it ranked eighth, surpassing Johns Hopkins University and the University of Chicago. Contributions to the Alumni Annual Fund, a measure of regular support of the University as opposed to support of a special campaign or interest, rose from approximately $530,000, when the Fund began in 1974, to slightly more than $1.05 million in 1979.

Parent participation in the annual giving program opened the decade with 22 gifts totaling $4.441 and during the next five years averaged $10,318. In 1975, when the Parents Program was formally organized, annual gifts totaled $27,097; during the next five years they averaged $70,415, with 980 gifts from parents in 1979.

Corporate support began the decade at $1.53 million and closed at $3.53 million. Of that, unrestricted gifts amounted to slightly more than $480,000 in 1970 and rose to $1.23 million in 1979. University support from corporations.
outside the St. Louis area also increased significantly. In 1970, $636,000 was received from such corporations; in 1979, $1.22 million was received. Among twelve leading private research universities surveyed recently, Washington University ranked third in terms of a five-year average of corporate support.

A final benchmark demonstrates success in broadening the base of the University's support. In 1970, 7,500 donors made 10,963 gifts to Washington University. In 1979, that base of support had grown to 19,256 donors and 22,762 gifts.

While gift support has increased substantially, the cost of securing that support has remained low by national standards. A recent survey of fifteen leading independent universities ranked Washington University ninth in a ten-year average of total gift support. Washington University's public relations and development program costs are among the lowest of comparable institutions. According to a recent study, the average cost per dollar raised during the past five years was approximately 35 percent below the median for private universities.

Washington University closed the 1970s with a coordinated and efficient University Relations structure. The main objectives of the development plan were achieved. The University has measurably strengthened its abilities to attract financial support, and it can look to the future from a solid and growing foundation.

The University's success has been due to the dedication and hard work of many individuals. Few of these accomplishments would have been possible without the counsel, support, and active participation of the Board of Trustees; the thousands of donors and volunteers; the chancellor; the administrative officers, faculty, and students of the University; and the University Relations staff.

While it is impossible to name all who deserve recognition, mention must be made of the leadership provided by Chancellor William H. Danforth and by Development Committee Chairmen George H. Capps and his predecessor, the late Edward A. O'Neal.

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Corporate Giving
DOLLARS (Millions)

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<tr>
<th>Fiscal years ending June 30.</th>
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<tbody>
<tr>
<td>Unrestricted</td>
</tr>
<tr>
<td>1970</td>
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<td>1.53</td>
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<td>1.05</td>
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<td>.93</td>
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<tr>
<td>1974</td>
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<tr>
<td>1980</td>
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<td>4.62</td>
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<td>1.05</td>
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<td>1.53</td>
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The progress continued unabated. Total gift support in 1980 reached $2.29 million, an increase of 26 percent over 1979. In the same twelve-month period, alumni support rose to $2.48 million from $2.44 million, and participation rose to 26.5 percent from 26 percent. Corporate support rose to $4.62 million from $3.53 million; foundation support rose to $4.62 million from $3.31 million; support from friends rose to $3.9 million from $2.27 million; support from other organizations rose to $3.51 million from $3.22 million. Excluding bequests, which nearly doubled from the year before, gift support to Washington University reached $19.14 million in 1980, compared with $14.78 million in 1979.

Clearly, the efforts of the 1970s have placed the University in a strong position to face the challenges of the 1980s and beyond.

Washington University must move forward at a time when world tensions remain dangerously high and when the national economy continues to be strained and beset by inflationary pressures. In addition, the declining number of 18-year-olds, the changing expectations of young people, and the evolving needs of society will challenge continually the energy and commitment of institutions of higher education. Only those which have prepared themselves well can hope to achieve their goals and objectives.

Even with the solid progress Washington University has made in strengthening its ties with alumni and friends, its continued growth toward eminence will require even greater planning and attention in the years ahead.

For that reason, in 1979 the University launched a bold venture, the Commission on the Future of Washington University, as the first step in its program for the '80s. Chaired by members of the Board of Trustees, and involving alumni, friends, and other professionals, the Commission's task forces bring together some 275 leaders to critique and advise on goals and objectives and on the resources needed to achieve them. From this undertaking will flow a better understanding of the nature and vision of Washington University. With that understanding and the support of alumni and friends, Washington University will be able to look to the future with confidence.
The color is gone from the campus by now. The golden foliage of the gingko trees east of Olin Library fell into pools of yellow and then disappeared, turned to brown mulch by the first snow, just before Thanksgiving. The fiery red of the sumac and glow of the campus's majestic hardwoods followed suit.

Those alumni who graduated before the last decade recall December as quietly routine, with Christmas music echoing from various chambers toward month's end. But now the semester ends before the holidays. The push to finish papers and projects starts before Thanksgiving and intensifies after. Final classes for the semester meet the first week of the month. By December 15, finals are over and the campus lies quiet, all but abandoned by students. The University takes a month-long holiday from its chief occupation—teaching and learning.

It was a nice fall. The University learned that Edna Berger, a St. Louis woman of whom we knew little, did know us. She bequeathed more than $2 million to Washington and St. Louis universities to endow scholarships for students who may not be eligible for academic scholarships, but who show ability to get along with their fellow man. In her will she noted that many such persons later developed into individuals who make substantial contributions to society.

In late October the University itself extended a thank you by welcoming to the U.S. and to campus M. and Mme. Bretheau and their son, Eric. The Bretheaus are the family who for two summers have made the chateau La Hercerie, in the Loire Valley, a warm home for Washington University students studying French. M. Bretheau is the chef of the French Student Center, and Mme. Bretheau is the director. Eric, who is seventeen, is a constant companion of the U.S. students. The invitation was the University's response to their hospitality.

Recently a small but long overdue change to campus's physical appearance was approved. Joseph and Patti Towle presented to the University a gift to be used in revamping the area at the entrance to the Campus Y. Through the years that small spot, which has meant so much to generations of students involved in Y programming, has been a stepchild in campus beautification. With the Towle gift, the area will be redesigned and landscaped. Joe Towle is professor emeritus of business.


We must note with regret that Professor Brodman, whose delightful article on the genius and eccentricity of Joseph Nash McDowell appears on page six, retires from Washington University in January. Brodman has not only steadily guided the medical school library through the knowledge explosion of the past twenty years, but has herself earned a place of respect in library science.

The Compton era at Washington University sadly drew to a close on November 21 with the death of Mrs. Arthur Holly Compton. Although Betty Compton was eighty-nine, her tremendous vitality endured. In recent years she had given up the large blue Oldsmobile that had thundered up Forsyth announcing her coming with a verve that characterized its driver. Happily, she accepted escorts and continued to grace our state occasions. She had come to campus first in 1926 when her husband was appointed chairman of physics. After the Manhattan Project, she returned with him to take up the University's first ladyship. It suited her well, and she it.

D.W.