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See pages 11-14

Illustration by Antonio Turjan

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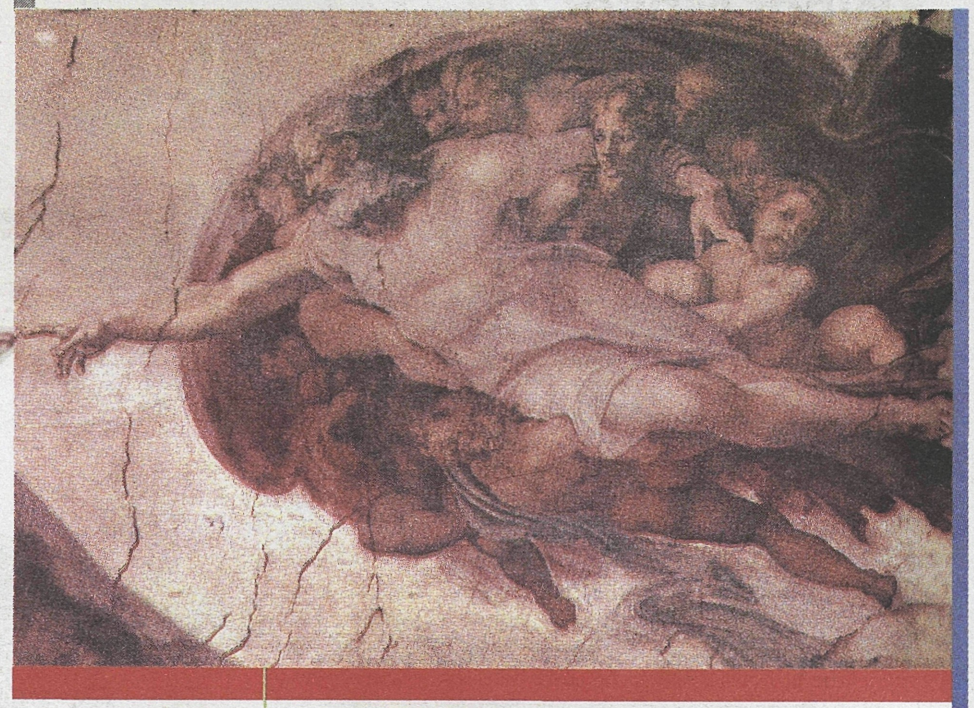
U-M scientists are tackling two big questions:

What Makes *Matter* Matter?



There's Plenty of Zing In String Theory

By Gordon Kane

In July, more than 350 string theorists from around the world will meet at the University of Michigan. In 1984, the world contained only a few people who could be called string theorists in today's sense. Why did this explosive growth occur?

String theory is an extremely ambitious activity. For the first time in history, we have a scientific attempt to ask what are the most basic laws that govern the natural universe, and where the laws of nature that allow our universe to exist come from. The theory can address what space and time are and why they exist. It allows gravity and quantum theory to work consistently together in one theory, which has been a notoriously difficult problem. It incorporates all the forces that affect the basic structure of the world. Clearly, formulating and testing any approach that promises so much is worth a great deal of effort.

Another area of physics where exciting developments have occurred, and where remarkable discoveries are hoped for in the next few years at upgraded and new experimental facilities, is called "supersymmetry." Supersymmetry is an idea (described on page 5) that was formulated in the early 1970s, so it had a few years lead on string theory. There is good reason to believe that supersymmetry and string theory together provide a far more successful description of the world than either does separately.

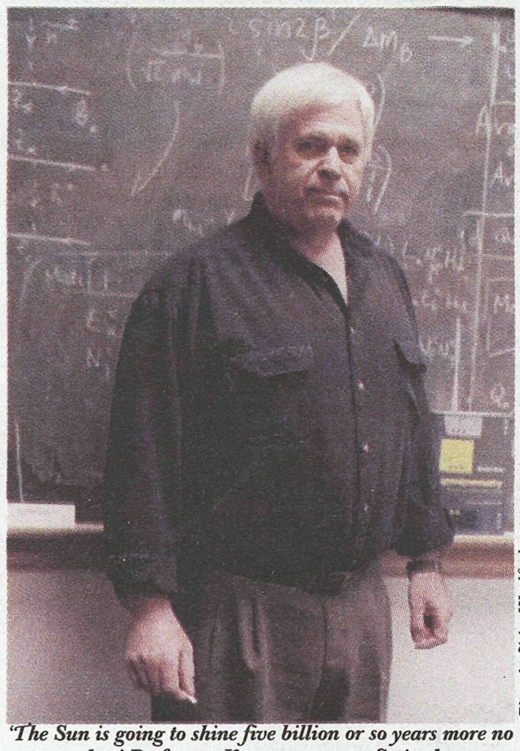


Photo by John Woodford

'The Sun is going to shine five billion or so years more no matter what,' Professsor Kane assures us. So in the meantime, it might be good if we come to 'fully understand what the world is made of and how you get a universe.'

What Is at Stake for Nonexperts?

What are string theory and supersymmetry? How do they fit together? What could convince us that they are indeed the correct description of our world? What stake might non-physicists have in this quest? Let's address the last question first. As science increasingly comprehended the phenomena of the world, we learned the causes of lightning and earthquakes and volcanoes, and we learned that they are not the tools and punishments of the gods. We explain the real causes to children so they will be awed but not frightened by lightning and thunder.

Before Isaac Newton, there was no understanding of why the Sun rose every day. After Newton's work people who learned of it understood that the Sun did not rise because they had prayed for it to rise, and that changed our worldview. Learning about the immensity of our universe, that our Sun is but one of billions and billions of stars, has had a similar profound effect on how we think and feel about our place in it. If we do learn the answers to our questions about the primary laws and the origins of the universe, even the

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What Makes *Life* Life?

The Protein Pro

PHIL ANDREWS IS PIONEERING 'THE HOTTEST FIELD OF THE 21ST CENTURY'

By Ken Garber

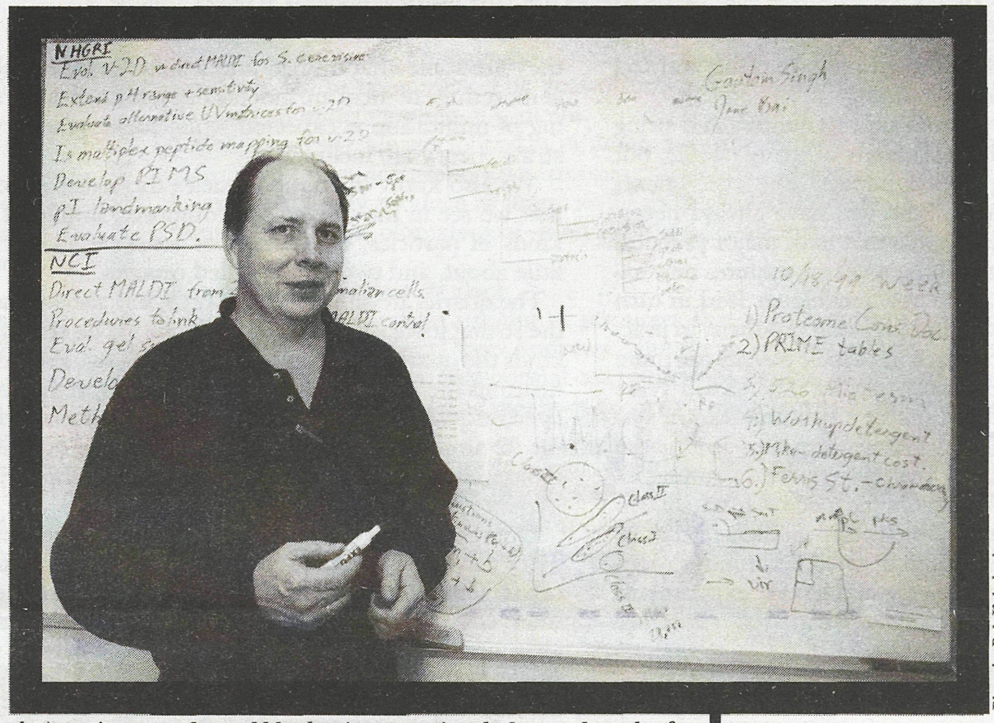


Photo by Bob Kalmbach

Andrews is among the world leaders in proteomics–the largescale study of an organism's proteins.

For Phil Andrews, words don't do justice to the remarkable changes he's witnessing in biology. The imminent completion of the Human Genome Project–the mammoth international effort to transcribe the human genetic code–is "a revolution, frankly," he says. "Having the whole genome is a lot like the astronauts looking out the window at the Earth for the first time. It changed their perspective."

With the genetic code deciphered, Andrews says, the truly meaningful work begins. The Genome Project "will be thought of something like the invention of the Gutenburg press," he says. "It created all the literature that came after that. Now we're going to start publishing all that literature, for biology."

Completion of the Human Genome Project means, Andrews says, "we'll spend the next ten generations of scientists trying to understand the organism: What makes an organism alive? What does it mean for an organism to get sick? Even, why does an organism act the way it does?"

Sought by the News Media

Andrews, a professor of biological chemistry and senior research scientist in the Medical School, has been preparing for this moment since arriving at the U-M a decade ago. In his Medical Science Building I laboratory, he has quietly been creating new methods and technology for use in the "post-genome" era. *Science* and *Business Week* call to ask his views on new developments, and his lab is bursting at the seams, filled with busy postdoctoral students from as far away as Australia. A file cabinet sits in the hallway, marked, "This File Cabinet Stays–It's In Use!"

Andrews himself is soft-spoken and unassuming, and he displays an almost child-like sense of awe when he talks about new discoveries. He grew up in Florida, son of a small-town doctor. Fascinated by the natural world, he recalls spending "hours in swamps and lakes–I had a great snake collection." Laboratory science seemed a logical way to understand nature better, and Andrews eventually graduated from Georgia Tech in chemistry. After a faculty appointment at Purdue (where he'd received his PhD in biochemistry), Andrews came to Michigan in 1990.

During his time at Michigan, Andrews has studied how insulin is processed by the body, examined how proteins are activated, and designed a drug to reverse the effect of heparin, an anti-clotting drug given to patients undergoing surgery. But in recent years he's focused on a new field that seems poised to take the spotlight: proteomics.

The Rush Is On

"Proteomics is going to be the hottest field of the 21st century, as genomics was in the century that just ended," says Steve Martin, who directs the Proteomics Research Center for PE Biosystems, the parent company of Celera Genomics. Celera, the Maryland company led by maverick scientist Craig Venter, is racing the publicly funded Human Genome Project to be first to decipher

Continued on page 5

PROTEINS ARE TO GENES AS BUILDINGS ARE TO BLUEPRINTS

Zing In String Theory

Continued from page 2

Frank & Ernest reproduced by permission of NEA, Inc.

fact of learning them will change how we think and feel about our universe and its meaning.

The knowledge derived from supersymmetry and string theories may change the worldview of many people, but it isn't likely to have practical impact. The experiments involved in such research, however, have always necessarily yielded so-called spin-offs that have major practical impact. That is because frontier research requires new experimental techniques. The new techniques lead in turn to innovations and new technology and products. In practice, all investments in research in particle physics are more than paid back to society economically. The World Wide Web, for example, is the result of a communication system invented to enable particle physics groups around the world to transmit data and analyses efficiently among international research partners. On the medical front, 80,000 people benefit daily from "accelerator medicine," that is, from medical therapies resulting from techniques originally developed for high-energy accelerator experiments exploring the elementary particles of matter. These are just two examples from a very long list.

The Standard Model

Today we have a remarkably successful description of the observed physical world. We know the **five basic forces that act in nature: they are called the gravitational, electrical, magnetic, weak and strong forces**. Currently, they are somewhat unified into a simpler picture so that at most three of them are independent; further understanding of unification is expected when supersymmetry and string theory are included.

We also know the basic particles the forces act on: all that we see in the universe is composed simply of three kinds of particles, **electrons** that we have all learned a little about, and two others called **quarks**.

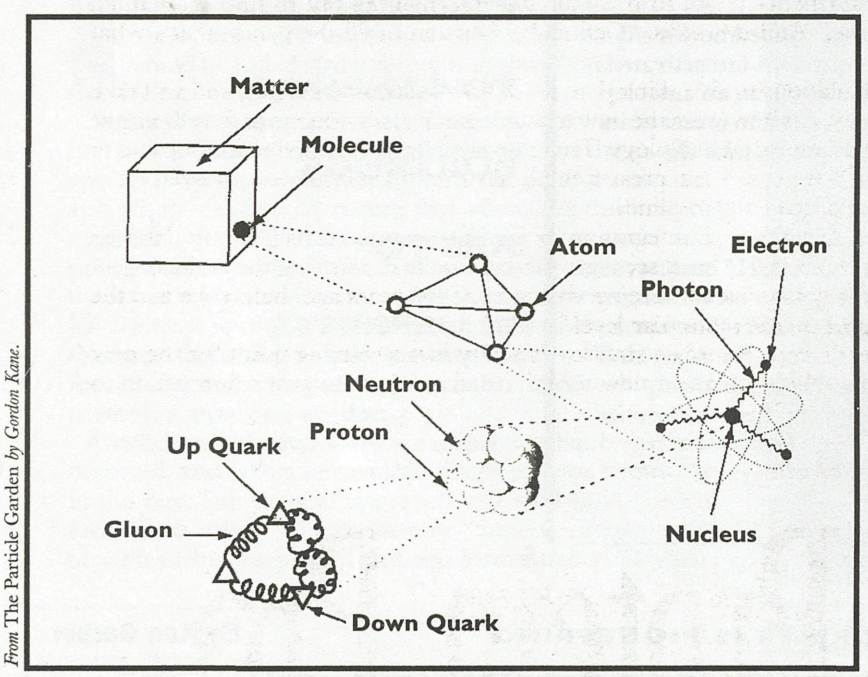
The quarks are similar to electrons, but also interact via the strong force (which electrons don't). The strong force binds the quarks into **protons** and **neutrons**. Protons and neutrons then combine into **nuclei**–they form the 92 long-lived nuclei. Those nuclei interact with electrons and form the 92 atoms of the chemical elements. The atoms form molecules. From such simple ingredients all the complexity and variety of our world is built up.

Quantum theory and Einstein's special theory of relativity give the rules that govern how all the interactions occur. This picture, combining the particles and forces and rules, is called the Standard Model of particle physics. It gives us a complete description of how the natural world works (though not why it works that way). It includes all that has been learned about the physical world over four centuries and explains a huge number of observations.

The Frontier Beyond the Standard Model

There are, however, a number of phenomena that the Standard Model does not explain. They are not questions about *how* things work, or outcomes of experiments, but rather *why* certain aspects of the world are the way they are, or *what* certain things are. Physics has not tended to ask these questions, because they were too remote from what was understood scientifically. Until the past decade or so, almost all physics focused on how things work, not on why they are the way they are. The boundaries of science have been moving, however, and even though they are rather technical, I'll describe a few examples of what scientists are looking for at the latest frontier outposts.

- Over 90 percent of the universe is dark; that is, it doesn't make light like our Sun and other stars do. We deduce that the **dark matter** is there much the same way we could figure out we had a moon even if the atmosphere was so thick we couldn't see it–from the dark matter's effects. (For the Moon, the biggest effect is the tides.) It is impossible for the Standard Model to explain what this dark matter is, but supersymmetry provides a natural candidate, the lightest of the new particles predicted by supersymmetry. Experiments are under way to test whether this is indeed the explanation.
- Although the electron and two quarks do make up all that we see, there are actually more particles. The additional ones have been discovered at particle accelerator facilities, where beams of particles are accelerated to very high energies and then collided. Sometimes previously unknown particles emerge from such collisions. Most of the new particles decay into the more familiar ones very quickly, the most stable one existing for only a millionth of a second. A few of them don't decay but interact so little they do not enter into what we see. There are two more particles like the electron, and also two more like each quark. Why the additional particles exist is a mystery. They do not play any known role in how the world behaves. We can describe their behavior completely, but we do not know any reason they should exist. String theory can address this issue.
- To be complete the Standard Model requires a new particle to exist, called a **Higgs boson** (named after Peter Higgs, a physicist involved in the invention of the mechanism that leads to the prediction of so-called Higgs bosons). Interactions with the Higgs boson allow particles to have mass. In the Standard Model the Higgs boson is introduced in an arbitrary and conceptually unsatisfactory way, though technically it is all right. Supersymmetry accounts for Higgs bosons naturally, and allows one to derive their properties, so it puts this whole "Higgs physics" area on a



From The Particle Garden *by Gordon Kane.*

Matter is made of molecules, which are in turn made of atoms. Salt, for example, is a molecule containing one sodium and one chlorine atom bound together. Each atom has a nucleus with electrons orbiting a nucleus to which they are bonded by photons. The neutron is made of protons and neutrons bound together. Neutrons and protons are made of quarks bound by gluons. A typical small molecule has a diameter of about one-millionth of a centimeter; an atom is a tenth of that, and the atom's components many thousand times smaller still.

firm footing. Detecting Higgs bosons in experiments is thus a crucial test of supersymmetry. (See *Michigan Today*, October 1990, "Material Witnesses," by Madeleine Strong Diehl.)

Matter Particles and Force Particles

More examples could be given but this is enough to make the point. Now let me turn at last to what supersymmetry and string theory are. All particles do is interact. The Standard Model description of how they interact starts with the electron and quarks feeling the various forces, as described above. We know that magnets are surrounded by magnetic fields. Similarly, all particles are surrounded by gravitational fields, electrical fields and by the weak and strong force fields.

Particles feel the forces by "sensing" these fields. As quantum theory shows us, the effects of the forces are transmitted in chunks, quanta. The chunk, or quantum, of the electromagnetic field is the **photon**, and there are similar quanta for the other fields.

Thus our description is truly a particle one: there are matter particles that interact, and they do so by exchanging photons and other quanta of the fields.

The Symmetric 'Superpartners'

This description works very well. But it is an asymmetric one, with one type of particle as matter, another type as the particles mediating the forces. **Supersymmetry is the idea that at a deeper level the laws of nature are more symmetric**, that associated with each matter particle there is a previously unknown force particle, and associated with each

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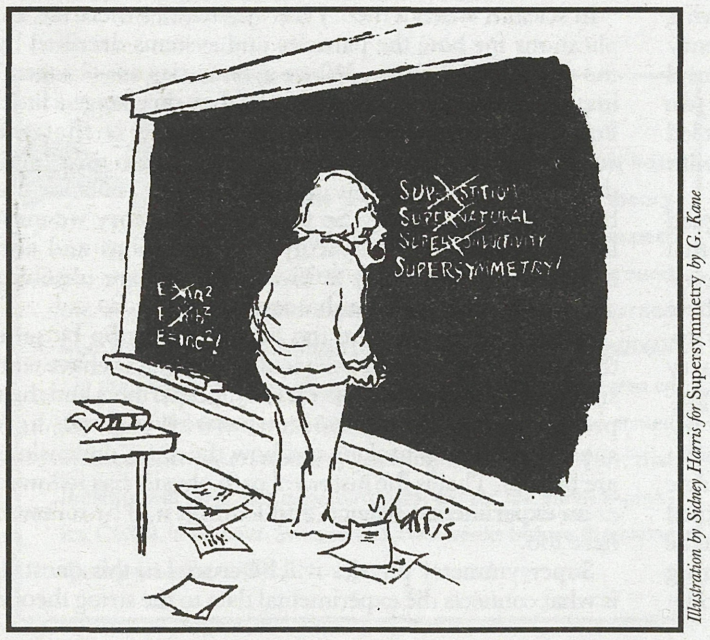


Illustration by Sidney Harris for Supersymmetry *by G. Kane*

What Makes *Life* Life?

Continued from page 3

the entire genetic code. Venter recently announced that Celera will spend nearly $1 billion on a massive proteomics effort. "In the next year, this is going to take off exponentially," Venter said in a talk here last December.

What is proteomics, and why are Celera and others investing so heavily in it? An Australian scientist, Marc Wilkins, coined the term in 1994, to refer to the large-scale study of an organism's proteins. Proteins, not genes, do the work of biology. Proteins are to genes as buildings are to blueprints. The goal of proteomics is to make sense of the genetic code through an understanding of proteins.

Biologists have always looked at proteins, but until recently they have studied them individually. Proteomics proposes to examine thousands of proteins at once. Given that the human body may produce as many as 20 million different proteins, cataloguing the whole thing–proteomics' ultimate goal–is an enormous challenge.

Bigger Than Genome Project

"We all assume that the amount of resources that will go into proteomics will dwarf the Human Genome Project," says Andrews. "But the payoff will be direct." Comparing the type and quantity of proteins in a normal cell to those of a diseased cell should yield drug targets for treating that disease. And measuring a drug's effects on proteins will help predict dangerous side effects.

Cataloguing the body's protein activity should yield new knowledge to illuminate the vast areas of biological ignorance. For example, biologists don't have the faintest idea what most of our 100,000 or so genes actually do. Proteomics, along with structural biology (the science of protein structures) and bioinformatics (*see sidebar*), will gradually fill in this huge knowledge gap.

Andrews's lab is developing cutting-edge proteomics technology. Among other things, he's working on ways to feed proteins–after separating them in a gel using electric current–into mass spectrometers for rapid identification. (Mass spectrometers identify proteins by giving them an electric charge, then propelling them through a magnet and analyzing their flight path.) Mass spectrometry is a major bottleneck in proteomics.

Andrews's lab is also developing bioinformatics software to catalogue the hundreds of thousands of pieces of data that will be generated. The immediate goal is a complete proteomics system capable of tracking all the proteins in a simple organism. But the real Holy Grail is biological understanding.

"The goal of bioinformatics is not to track all that information, but to find the hidden meaning in the genome," Andrews says. "Define the function of all the genes–that's what we're trying to do."

This is a far more ambitious undertaking than the Human Genome Project, and will take much longer. Ultimately, Andrews sees the new technologies he and others are developing as leading to a new holistic approach to biology. That means reversing the reductionist trend of the last century, which saw greater and greater emphasis on studying isolated parts of organisms in ever-more-specialized subdisciplines.

"We're going to be seeing a true integration of the life sciences, driven by the Human Genome Project," Andrews says. "We'll see a greater emphasis on studying the entire organism. Which [in a way is going] back where we were a hundred years ago, before we had the tools to study organisms on the molecular level."

The Genome Project's end, Andrews stresses, is really just a starting point for the new biology. "It gives us a whole range of new tools," he says, "but it's just a beginning to understanding." MT

Ken Garber is an Ann Arbor-based science writer.

The Protein Pro

What Makes *Matter* Matter?

Zing In String Theory

Continued from page 5

force particle there is a previously unknown matter particle. These predicted particles are called **superpartners**.

The equations that describe the hypothetical superpartners and their properties have led to new explanations and predictions. The most dramatic prediction is that the superpartners must exist–that they are real particles that physicists should be able to produce with colliding beams of particles.

If our understanding of the theory is basically correct, the new particles should be found at the upgraded facility at Fermi National Accelerator Laboratory, just west of Chicago. Fermilab will begin to take data in March 2001 after six years of improving the intensity and energy of the beams (and also upgrading the detectors needed to record the results of the collisions). Experimenters from the University of Michigan are among the leaders of these experiments.

Why do we call this property of the theory a symmetry, and why is it "super"? Scientists speak of a symmetry whenever the theory that describes a system doesn't change even if one modifies some of the terms in the equations that represent the theory. Here the symmetry is between the matter-type and force-type particles. They used the term "super" because the possibility of such a symmetry surprised them and because it had remarkable consequences.

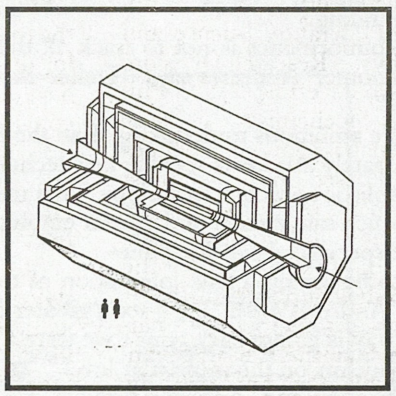
The Score Calls for Strings

What is string theory? The Standard Model, and supersymmetry, too, are theories written in three space dimensions, with point-like particles. One problem with that approach became obvious in the 1970s, namely there did not seem to be any way to make a theory of gravity that was consistent with quantum theory and its chunks.

Einstein's theory of gravity was not a quantum theory, and physicists have understood that it would have to be extended, but there did not seem to be a way to do that. A few people realized that one could not make a consistent quantum theory of gravity if one tried to do it in three dimensions–height, width and depth–*but that it was possible if the universe really has a larger number of dimensions.*

Now we have learned that it is possible to make a quite remarkable theory in nine space dimensions. It seems to be consistent with the rules of quantum theory, to contain both gravity and the supersymmetric Standard Model, and to require only the forces that have been observed. In this theory the particles are the same ones we know–the particles of the Standard Model and their superpartners–but they are *represented* not as point-like quanta of fields but as tiny vibrating strings, so tiny they would appear point-like in any experiment we could do. They are not strings of anything; if they were, then that stuff would be more basic than the particles of the Standard Model. When we say they are strings, we mean *their behavior is described by the same kinds of equations that would describe idealized everyday strings*–thus, "string theory." Different patterns of vibration of the strings–the sort of changes that produce different notes from vibrating violin strings–correspond to different particles.

How can we think of our world as having extra dimensions? Mathematically, that's not very hard. But it is difficult to picture. Imagine that you can move only in two dimensions, length and width, of a big room, and that the third dimension, height, isn't large like the other two but curled up at each point in a tiny circle, so that you don't experience it. We don't yet know how the "extra" six dimensions are arranged–when we have learned that, perhaps it will be possible to provide a better picture.

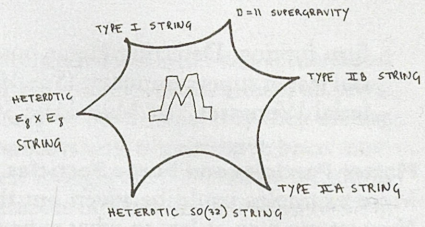


A schematic of a possible detector for a future collider. The two people in foreground illustrate the scale. The particles are detected in tracking chambers by tracing their 'signatures,' which may include flight path, distance, duration, energy and so on, as the particles are formed in particle colliders. The particles live only about a millionth of a second before disappearing or bonding with other matter.

Adagio for Five Strings in M

During the 1980s, as people studied string theory they realized that there seemed to be not one unique string theory as was hoped for if string theory were to be the most fundamental theory, but *five different string theories plus a related theory called supergravity*. That led to considerable discouragement with the whole approach.

Then in 1995 Edward Witten argued and presented evidence for the idea that there was in fact *one primary theory*. Supergravity and the five string theories were how this primary theory appeared if one looked at the primary theory from various limits or perspectives. He called the primary theory **M-theory**, and remarked that he wasn't sure if M stood for Mystery or Magic or Mother. And he drew the six-pointed figure shown here, with M-theory in the center and the various forms of string theory or supergravity represented by points on the edge. (More recently, we have realized that M of course stood for Michigan–this figure will be the logo of the international strings meeting being held here.)



String theory is very beautiful. It passes many tests by being consistent with gravity and quantum theory, and containing the Standard Model and the associated particles. But since it is formulated in nine space dimensions, not three, we can't tell if it really is the theory that describes our world. There are various ways the extra dimensions could hide. For example, they could be very tiny, so we could not move into them. Physicists describe this by saying the nine are "compacted" into our three.

There is another barrier to testing string theory. The world we live in is not fully supersymmetric. If it were, we would have known, to give one example, about another particle similar to the electron (that is, the electron's superpartner) for many years now, because it would be as ubiquitous as electrons. We expect to find evidence for a "broken" or partially hidden symmetry in comparison with what theory calls for. Once we have direct experimental detection of superpartners, understanding how supersymmetry is broken will become the central problem of the field.

In science, when a theory has symmetries there are implications for how the particles and systems decribed by the theory can behave. When symmetries are "broken," implications don't just go away, but they do change a little. For supersymmetry the key difference is that the superpartner particles should be heavier than their Standard Model partners. But the string theory calls for unbroken supersymmetry. So to test string theory we must learn both how to compactify the dimensions and also how its supersymmetry is broken. These are unsolved problems and very difficult ones.

I believe that they are too hard for solution by pure theoretical analysis and will yield only when we have considerable experimental data on the superpartners and their properties, data that point the way to both how supersymmetry is broken and how the extra dimensions are hidden. That is the historical path physics has followed as an experimental science, and I expect it to be followed here too.

Supersymmetry physics will be crucial to this quest. It is what connects the experimental data to the string theory.

Experiment and string theory cannot talk to each other directly, but they can both communicate via supersymmetry.

A Melody Like Cake

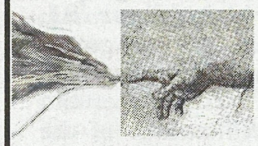
I am often asked what is the connection between string theory and supersymmetry. String theory is like a musical score. Supersymmetry is like the performance. If you can read the score and hear it in your head you don't need the performance, but most of us do. Or, string theory is the recipe, supersymmetry is the cake.

If all goes as hoped, superpartners and Higgs bosons will be discovered, and their properties studied in detail, over the next 10 to 20 years. We are finally getting some of the facilities needed to do that, and we physicists hope that once the superpartners are found, the rest of the needed facilities will come.

The collider (called LEP) at the CERN laboratory in Geneva has just entered the region where the superpartners and Higgs boson could be found. Exploring this region requires two conditions: more energy in the colliding beams, to produce the expected heavier particles; and beams of large enough intensity to increase the frequency of collisions that produce new particles so they occur often enough to provide a convincing signal. Fermilab in Illinois will cover a major part of the region in the period 2001-2006, and further facilities will cover more of the region after that.

Of course things don't always go as hoped, and we cannot be certain of these breakthroughs. In the development of the Standard Model in the 1965-1980 period, the understanding reached a certain stage and then the experimental and theoretical progress came fast and the results fell into place as expected. In many ways we are in a similar situation today, and it is fair to hope for similar success. Then we will better understand this place where thunder and lightning and springtime and physicists and other people exist. MT

Gordon Kane, professor of physics, has written books for nonexperts on science, including The Particle Garden *(Helix Books, 1995, hardcover, $22) and* Supersymmetry: Unveiling the Ultimate Laws of Nature *(Helix Books, 2000, hardcover, $26.)*



The University of Michigan will host the annual international string theory meeting July 10-15, 2000. We expect over 350 string theorists from around the world to come. (More about the meeting can be learned from its web site http://feyman.physics.lsa.umich.edu/strings2000/) In the 1980s, Michigan physicists pioneered in a related area of physics called supersymmetry. The University hosted the annual international supersymmetry meeting in 1994. This year, that meeting will be at the large European center for particle physics, CERN, in Geneva, Switzerland, two weeks before the string theory meeting.—**GK.**

Bioinformatics is expected to lead the way to gene-level diagnosis and 'tailored' cancer therapy

A New Approach to Biology

The imminent completion of the Human Genome Project has ushered in a new age of biology. But its success has also caused a big problem: an overload of information.

Photo by Bill Wood

Savageau

"This enormous amount of data coming out of the Genome Project is, in fact, like drinking from a fire hydrant, for the average researcher," said Genome Project director Francis Collins at a meeting in April. (Collins is on leave from his U-M faculty post in the Department of Human Genetics.) "Bioinformatics is going to be crucial for understanding all this."

The U-M is planning to do its part. A new multidisciplinary program in bioinformatics has been established at the Medical School. Total funding for the first five years: about $14 million.

"That's an awfully good start for a program," says Mike Savageau, chair of the Department of Microbiology and Immunology and interim director for the new program. (A search for permanent director is almost complete.) In addition to all the Medical School departments, many other units have been involved, including the School of Public Health, College of Engineering, the College of Literature, Science, and the Arts, and the Biophysics Research Division.

"It's a huge grassroots effort," says Phil Andrews, professor of biochemistry [*see main story*]. What is bioinformatics? Savageau defines it as "an emerging field based on the two most revolutionary developments of the past few decades—molecular biology and computer science—with the goal of understanding the integrated behavior of the entire organism."

The traditional laboratory biologist has narrowly focused on one small part of an organism—a hormone, an enzyme, an antibody. Scientists can now view a whole system at once. For example, a chip smaller than a fingernail can display all of the genes turned on at a given time in a given tissue.

"The new approach, that's been made possible by new technologies, means that you can begin to look at it from the top down," Savageau says. "That is, collect systemic data about an organism or cell, then try and deduce the underlying mechanisms that give rise to that behavior."

The U-M's program also responds to a national need for more trained bioinformatics specialists. When approached by biology students about the best job opportunities in coming years, "the first thing out of my mouth is bioinformatics," Francis Collins told atendees at the April meeting. "We are woefully short of having a critical mass of people who understand both biology and computational approaches."

Some important findings have already come out of bioinformatics. Louis Staudt of the National Cancer Institute (NCI), for example, has been able to identify different types of non-Hodgkin's lymphoma, a particularly deadly cancer, by studying patient gene expression patterns and identifying which tumors would likely prove resistant to chemotherapy. "This will significantly change our approach to diagnosis," said NCI director Richard Klausner, and it brings the notion of "tailored" cancer therapy—treatment optimized for individual patients—one step closer to reality.

But the big payoff for bioinformatics is down the road. "At this point people are still putting a lot of effort into developing the technology," Savageau says. Funding for the U-M program comes from the Parke-Davis pharmaceutical reseach division of Warner-Lambert ($5 million over five years), a large sum from the Howard Hughes Medical Institute and contributions from the U-M Health System.

The Michigan Life Sciences Corridor, the state's $1 billion research initiative funded from its settlement with the tobacco companies, has identified bioinformatics as one of five priority areas, and could also be a source of funds down the road. The Corridor, organized to promote life sciences research and business, was launched this year by the Michigan Economic Development Corp., and includes the U-M, Michigan State University, Wayne State University and the Van Andel Institute in Grand Rapids. U-M President Lee C. Bollinger is a member of the corridor steering committee that will allocate funds on a competitive basis for basic research.–**KG.** MT

110TH REUNION, RENOVATIONS, RECREATION

BIG DOINGS AT The Daily

By Peter Mooney

"I remember watching the then-outgoing editors cry as they walked out of the *Daily* for the last time as staffers. I now understand why," wrote Heather Kamins this past April in her last column for the *Michigan Daily*.

Reminiscences like these reflect the affection that University alums who worked on the newspaper feel for the *Daily*. As Kamins's column pointed out, the *Daily* becomes an almost full-time job and social hub for its staff. Permanent friendships, and even marriages, are forged within its offices. For many, a fierce attachment to the newspaper lasts for life.

Student Publications Building

Such sentiments will be much in evidence at the *Daily's* 110th anniversary reunion Oct. 13 and 14, when alumni and current staffers will celebrate the many attributes of the *Daily*, including its editorial independence and the impressive achievements of its graduates. Two former editors will speak at the reunion dinner. ESPN Sportscenter anchor Rich Eisen '90 will serve as the master of ceremonies, while Time, Inc.'s new media editor Daniel Okrent '69 will be the keynote speaker. (See profile of Okrent in *Michigan Today*, June 1993 issue, by Andrea Sachs '75, '78 JD.)

The Daily Goes Online

The reunion will give many in the *Daily* community a chance to see what has changed since the 1990 centennial celebration. Most, like other Michigan alumni/ae, will likely have already explored one '90s development, the *Michigan Daily Online's* Website www.themichigandaily.com.

According to Online Editor Paul Wong, the Web edition receives approximately 11,000 hits a day during football season, and 10,000 during the winter semester. The *Daily* calculates hits per day by section and story, with the sports section usually attracting the most interest, 4,000 hits per day.

Latino Students Protest Against The Daily

The *Daily* has long provided extensive coverage of campus activism from the Vietnam War protests of the 1960s to demands for greater minority enrollment in 1980s, but some '90s staffers recall one of the most memorable protests as targeting the *Daily* itself.

In 1996, the *Daily* published several items that raised the ire of Alianza, an organization representing Latino students on campus. According to staff members from the period, these items included an editorial cartoon critical of affirmative action and a student government endorsement editorial that found fault with a campus political party focused primarily on minority student issues.

On March 27, 1996, thousands of *Dailys* vanished from campus newsstands, which bore signs stating, "The *Daily* has been cancelled due to racism." A subsequent article about the missing papers quoted an anonymous source stating that a member of Alianza had removed at least some of the papers. In response to the article, approximately 200 students marched on April 3 from the Diag to the Student Publications Building. They protested both the article carrying the accusation about the removal of the *Dailys*, and the earlier cartoon and editorial that they found offensive. At least one issue was burned during the protest.

"I remember being shocked that students were burning *Dailys*," recalled Laurie Mayk, who watched the protest from inside the building. The sight convinced staffers that the *Daily* had to keep open lines of communication with campus groups and organizations it covered to address tensions and grievances before they boiled over.

The Student Publications Building to Undergo a Facelift

When not getting caught up with college journalism issues or getting reacquainted with old friends, the *Daily* alumni will learn about efforts to ensure that the Student Publications Building can serve students for many years to come. Last fall, University Regents hired Boston architects Finegold, Alexander and Associates to prepare drawings for renovations to the almost 70-year-old building. Improvements will include putting in an elevator, providing accessibility to the disabled, refurbishing the interior, enlarging space for the *Michiganensian* yearbook and *Gargoyle* humor magazine, and updating technological features. Although work won't begin for more than a year, *Daily* alumni and the U-M Office of Development have already begun discussions about raising funds for the project.

Many alums will undoubtedly suggest, or at least quietly hope, that the renovations leave everything looking exactly as they remember it. For them, there will be a melancholy aspect to this reunion, as they cherish the memories of a place where they devoted so much of their time, energy and passion at Michigan. MT

Peter Mooney '90, '93 JD, lives in Ann Arbor and practices law in Flint, Michigan. A former* Daily *editor, he wrote the article "100 Years of the Michigan Daily" in our Feb. 1990 issue.

1990s Daily Datelines

- **1990:** Hundreds of *Michigan Daily* alumni celebrate its centennial at Michigan League with a large reception and dinner. For information about this year's reunion, see www.dailyalumni.com/reunion.
- **1996**: Former sports editor Rich Eisen '90 becomes an ESPN sportscaster.

Eisen of ESPN will emcee.

- **1997**: Former news editor Lisa Pollak '90 of the *Baltimore Sun* wins the Pulitzer Prize for feature writing.

- **1998**: The *Daily* publishes a successful book featuring articles highlighting the Wolverines' 1997 national football championship.
- **1999**: The University's Board of Regents hires an architectural firm to begin planning large-scale renovations of the Student Publications Building.

Among many 1990s alums with positions on major news media staffs are **James Poniewozik** '90, media writer, *Time* magazine; **Amy Harmon** '91, reporter, the *New York Times*; **Steve Cohen** '91, manager of news planning, ABC Radio; **David Lubliner** '91, agent, William Morris Agency; **Judd Winick** '92, former MTV "Real World" cast member and now author/illustrator of the comic book series *The Adventures of Barry Ween, Boy Genius;* **Stephen Henderson** '92, associate editorial page editor, the *Baltimore Sun;* **Henry Goldblatt** '93, senior editor, *Fortune Magazine*; **Joshua Rich** '98, reporter, *Entertainment Weekly.*

(We invite '90s Daily *alums whom we've missed on this list to help us update it. Furthermore, we'd like* all *U-M alums in the news media,* Daily *alums or not, to let us know where they are and what they are doing.–Ed.)*

Life Sciences news

President Lee Bollinger sent a letter to faculty, staff and students May 24 updating progress on the U-M's new programs in the life sciences (see related stories on p. 3). We excerpt it here. The full text is on the Web at http://www.umich.edu/~urel/LS. Readers who wish hard copies may request them by e-mailing LSIupdate@umich.edu or contacting Michigan Today *by phone or fax.*

I am writing to update you on developments related to the Life Sciences Initiative and the Life Sciences Institute, both of which were endorsed by the Regents in May 1999. I am pleased with the progress we've made, especially in curricular and programmatic developments, construction efforts and collaborative partnerships with other state institutions and the private sector.

There is an intellectual revolution afoot in the life sciences–one equivalent to the revolutions in chemistry in the 1800s and in physics in the 1900s. Advances in the life sciences are raising new questions about what it is to be human, how best to lead a human or humane existence, what it is to be a living organism on this planet, and other crucial questions of human values that will reverberate throughout the social sciences, the humanities, the arts and medicine.

We also can expect transformations in the practice of health care, the nature of scientific research and significant segments of the economy, technology and education. The revolution in the life sciences presents us with an educational imperative to which we must respond in three ways. We must equip current and future scientists and health care practitioners to carry forward the science, engineering and healthcare of the future. We must prepare students for careers in the growing biological and health care fields. And we must educate all our students to be knowledgeable citizens in a world where moral, social, political and practical questions related to biology will arise more and more frequently.

I am particularly pleased to be able to tell you that the University has committed $500,000 in the 2000-2001 academic year to support the Program in the Life Sciences, Values and Society, and we hope to provide substantial funding for the program over the next several years. This will engage faculty in disparate disciplines, from the arts to anthropology, from social work to law, from nursing and medicine to philosophy. The program's key function is to bring together a range of scientists, scholars and graduate students for interdisciplinary research and conferences so that they can exchange knowledge and ideas, and cooperate in joint studies, joint teaching and graduate student supervision and research.

Two special events that examine the humanistic and bioethical aspects of the life sciences are on the calendar already: on October 11, 2000, Dr. Harold E. Varmus, past director of the National Institutes of Health and current president and CEO of the Memorial Sloan-Kettering Cancer Center, will deliver a talk on the life sciences, values and society that will promote reflection on related ethical and social issues.

In December 2000, the University will host a conference on "Death and Dying in America," organized by visiting Yale Law Professor Bo Burt. Professor Burt will also lead a biweekly faculty seminar and a Rackham graduate seminar during fall term to discuss the social and ethical implications of issues such as genetic manipulation, organ transplants from animals to humans and the allocation of health care resources.

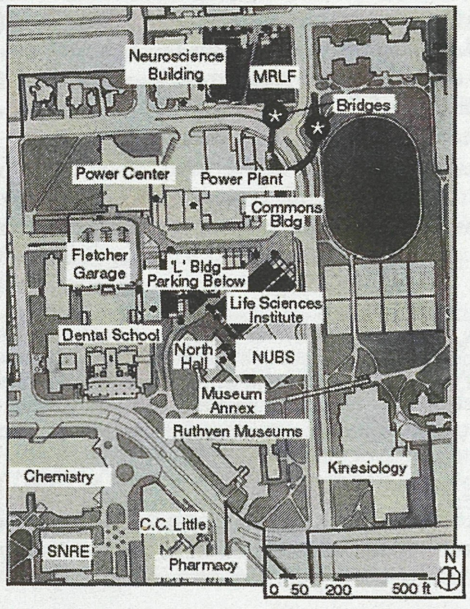
In today's world, it is inconceivable that a student would receive a liberal education without acquiring some understanding of what is going on in the life sciences. Accordingly, Provost [Nancy E. Cantor] and I have committed $1 million annually for three years to develop new interdisciplinary courses for undergraduate and graduate students. An innovative interdisciplinary undergraduate major in biochemistry already exists in LSA, and Jill Becker, a biopsychologist in LSA, has undertaken the effort to develop four new, cross-disciplinary, life sciences courses for undergraduates across the University. The new courses will be team-taught by faculty from several schools, including Engineering, Public Health, Medicine, Natural Resources and Environment and LSA.

We already know that many undergraduates are interested in the life sciences. Approximately one-third of all first-year students consider themselves to be "pre-med." In 1998, more than 700 LSA students applied to medical schools, and in 1999 about 800 LSA seniors graduated with a major in a core life science field. Consequently, we anticipate a good response to the courses.

Most of you know that the Regents committed $200 million in May 1999 for the establishment of the Life Sciences Institute. The search for a director for the Institute is under way. In a highly competitive field, we are looking for an outstanding scientist with the ability to launch a leading institute. Other institutions, including Harvard, Princeton, the California Institute of Technology, Stanford, Yale, University of California-San Francisco and University of California-Berkeley have also launched major initiatives, so the national competition for the very best scientists is intense. We hope to complete this search soon.

Gov. John Engler's announcement of the Michigan Life Sciences Corridor last year is another gratifying and important development. The State of Michigan plans to provide $50 million a year for the next 20 years for the Michigan Life Sciences Corridor, which includes the University of Michigan, Michigan State University, Wayne State University and the Van Andel Institute in Grand Rapids, along with other Michigan universities, colleges and the pharmaceutical/biotechnology industries.

Best wishes,
President Lee Bollinger



Planning for the Institute building has proceeded at a rapid pace, and in April the Regents approved the schematic design for the six-story, 230,000-square-foot building. Construction is expected to begin some time in winter 2000-2001.

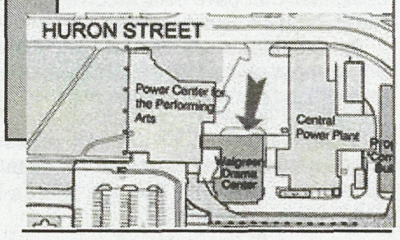
Walgreen backs Miller Theater

A $5 million gift by University of Michigan alumnus Charles Walgreen Jr. '28, '92 DHL (Hon.) has made possible the construction of the Walgreen Drama Center. The Center will house the Arthur Miller Theater and several student repertory theaters.

The addition of a 600-seat theater bearing the name of the noted playwright and U-M alumnus of the Class of 1937 will mark the fruition of an idea Bollinger has worked to realize since he assumed the presidency in February 1997.

Naming a theater in the Walgreen Center for the playwright known for such works as *The Crucible, Death of a Salesman* and *A View From the Bridge* will remind students "that they might find their talent, whatever it might be" at Michigan, Bollinger said. "This is a community that loves the word, that loves performance. This is vital to what we are as a community and as an institution."

The U-M will host the Arthur Miller International Symposium, "Arthur Miller's America: Theater and Culture in a Century of Change," on Oct. 26-29. The playwright will keynote the meeting.



Michigamua protest ends

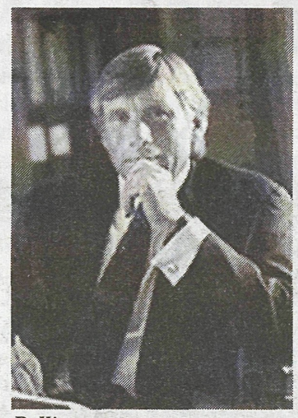
The Students of Color Coalition (SCC) ended a five-week occupation of the Michigamua student organization's headquarters in the Michigan Union on March 13.

The SCC had petitioned the University to "sever all affiliation with and subsidy" of the secret honor society because of its "offensive and culturally destructive appropriation of Native American culture."

SCC spokesperson Joe Reilly '00, of Kalamazoo, Michigan, said the group had seized the tower to show that members of Michigamua "do not simply imitate or mock Native Americans, but seek the creation and adoption of an Indian identity formulated upon romanticized stereotypes of extinct Native American peoples. Our contemporary culture continues to defy the stereotypes forced upon us by organizations such as Michigamua and institutions such as the University of Michigan."

Coalition members displayed Native American artifacts and cultural references they had found in Michigamua offices, including headdresses, statues, photos of Michigamua members performing Native American-like rituals. Reilly said many of those references were offensive to Native American culture.

Reilly noted that in 1989 the U-M administration and members of Michigamua signed an agreement calling for a halt to both behavioral and verbal references to Native American culture, with the exception of the organization's name. Because they believed the agreement remained unfulfilled, SCC insisted in the recent protest that the organization also cease using a Native American-styled name.



Bollinger

In a March 13 statement, U-M President Lee C. Bollinger said that "practices that negatively stereotype groups in our society" are "not acceptable behaviors in a University that values and fosters diversity. We must never take lightly the effects of such perceptions and behaviors."

The U-M "honors the principle that individuals and groups within the University community must be free to express a wide variety of beliefs and ideas," Bollinger said. But it "simply does not condone practices that denigrate the values or traditions of particular racial or ethnic groups. Finally, it must also be said that the University does not condone the illegal occupation of University premises by any student group."

A University panel that is examining the question of privileged space has recommended to the president that no student group "be granted a permanent or indefinite right to occupy space owned by" U-M. That panel is now considering "under what circumstances and in what ways the University, its administrators and faculty members should be associated with such organizations, and it will recommend guiding principles in this regard," Bollinger said. After the panel makes its recommendation this fall, "the University's Executive Officers and I will then decide whether and how to implement such principles," Bollinger said.

Founded almost 70 years ago, Michigamua has enrolled many illustrious U-M figures, including James Angell, the University's first President; Gerald Ford, an American president; Coaches Bo Schembechler, Fielding Yost and Red Berenson; playwright Arthur Miller and many others. In evolving from its past practices, it has included students of African and Asian Americans and female students in recent years.

Michigamua receives no funds from U-M, but acquired an indefinite lease to the top floors of the Union in return for its fundraising role when the Union was built.

In a Feb. 11 interview in the *Michigan Daily*, Michigamua alumni and current undergraduate members said the organization's focus is on University and community service.

"Michigamua is not trying to degrade Native Americans," hockey coach Red Berenson '62 said. "The original philosophy behind Michigamua was to honor them. Now in the '90s, it seems different. They're really trying to stay in touch with the University and the times."

Michigamua alumnus Lyell Haynes '98, who has publicly criticized Michigamua practices in the past, also questioned the protesters' actions. "I don't agree with the methods by which the SCC is doing their protest, but I do agree they have valid criticisms that need to be addressed." During his senior year, he added, members "stopped the beating of the drum at our meetings" and took down a totem pole at a recreation center on Dix Road.

Rudgers is new VP for communications

Lisa M. Rudgers was appointed vice president for communications at the University of Michigan effective May 15.

In announcing Rudgers's appointment, U-M President Lee C. Bollinger said he was "delighted that Ms. Rudgers will be leading the University's communications efforts. She brings visionary leadership and a strong background in marketing and public relations to this vital position."

Rudgers will be responsible for planning, directing and managing the University Relations program including the Freedom of Information Office, Office of Marketing Communications, Media Relations and Public Affairs, Michigan Radio, and Newsand Information Services, the parent unit of *Michigan Today*. As an executive officer, she will be a member of the senior management team and will advise deans, directors, executive officers and the president regarding communications, and serve as a U-M spokesperson.

Rudgers

Rudgers had served as assistant vice president for university relations at Michigan State University since 1998. Prior to that she was director of news and publications at Rensselaer Polytechnic Institute in Troy, New York, and also held a variety of marketing and public relations positions in the private sector earlier in her career.

Rudgers graduated cum laude with a bachelor of arts degree from St. Bonaventure University in 1985.

Keep Your Reference Letter File Active

The Career Planning and Placement office is conducting its regular review of reference letter files that are no longer active. As part of an ongoing process, files that have been inactive since December 1989 will be destroyed by the Reference Letter Center.

To maintain an active file, a student or alumna/us must have conducted one or more of the following transactions since December 1989: transmitted (mailed) reference letters as part of an admission or employment process; added new letters to the file; or submitted updated personal data (e.g. current address, telephone or newly acquired degree).

To reactivate a file that has not been used since 1989, contact the Reference Letter Center by July 30, 2000. You will be asked to supply updated information for inclusion in your file. There is no charge to reactivate a file.

File deactivation affects only reference letters. Transcripts and other academic material will not be affected by deactivation of reference letter files.

To start a new file, any U-M graduate, or current student with at least 12 credits, may do so through the Career Planning and Placement website (www.cpp.umich.edu). By linking to the Alumni/ae or Student section, and then Reference Letter Center, you will find the necessary information and forms.

Other questions or information about the reference letter service or the status of a particular file may be directed to: Reference Letter Center, 3200 Student Activities Building, 515 E. Jefferson St., Ann Arbor, MI 48109-1316. Phone (734) 764-7459; fax (734) 763-4917; or visit http://www.cpp.umich.edu/

A Modest Proposal: Let's Stop Consuming Our Kids

TIME AND SPACE FOR CHILDREN

By Elizabeth Goodenough

"There only remains 120,000 children of poor parents annually born. The question therefore is, how this number shall be reared and provided for, which, as I have already said, under the present situation of affairs, is utterly impossible by all the methods hitherto proposed. . . . I shall now therefore humbly propose my own thoughts, which I hope will not be liable to the least objection. I have been assured by a very knowing American of my acquaintance in London, that a young healthy child well nursed is at a year old a most delicious, nourishing and wholesome food, whether stewed, roasted, baked or boiled; and I make no doubt that it will equally serve in a fricassee or a ragout." Jonathan Swift, *A Modest Proposal*, 1729.

Elizabeth Goodenough is a lecturer in comparative literature at U-M's Residential College. She is guest editor of the Spring and Summer issues of U-M's *Michigan Quarterly Review* on "Secret Spaces of Childhood" and editor of a new series at Wayne State University Press, "The Child and the City." She has written the following essay in the hope of nurturing children's studies at Michigan.

How societies use and create spaces for children–whether day care centers, schools, theme parks or video games–determines how the next generation will see reality. Those who design kids' software, or the play areas at fast food restaurants or stores, replicate some mental picture of the users' joy. Conceptions of childhood past, present and future and the corresponding worlds constructed by adults "for the kids" revolve around such issues as innocence or deviance, safety or abuse, contemporary kinderculture or the "disappearance" of childhood.

But in our highly programmed and commercial world, little is known about down-time or away-space. What makes children gravitate to certain locales in search of comfort, security, excitement, community, self-awareness or beauty, and avoid other areas?

When babies play peek-a-boo or children hang by their knees, play house and capture insects in small cupped hands, they are reframing the universe, teasing their imagination to find its own dimensions. Schools exhort pupils to seek, but children know the importance of hiding out, of finding the "just for me" place where they feel safe and can't be seen. Secret spaces may be found inside or outdoors–in a tree fort or den of snow, on the roof, behind the stairs, or wrapped in curtains.

Child's Play, *linocut for* Michigan Today *by Richard Mock '65*

Secure and Special Spaces

David Sobel, from Antioch New England Graduate School, spoke last year at a U-M Residential College Symposium on Children and their Environments about the critical role of hideouts in trees, bushes or play forts during middle childhood. His cross-cultural research in environmental education suggests that between the ages of 6 and 12 what girls and boys want most of all is to "make a world in which to find a place to discover a self."

We like to imagine that when this place of discovery is outdoors, kids will find that the best things in life are still free: dirt, air, trees, animals, rocks. Too many of our assumptions about childhood reflect romantic ideals of the past, not the white noise of today's advertising and mass media, which assault them with labels and "lifestyles" of the rich and famous. In reality, according to the last Census, fewer than 2 percent of Americans now grow up in the country.

Architects, real estate developers and city planners are increasingly aware of the needs of children in well-off suburban areas, but they rarely consider the civic needs of low-caste children or those for whom home is not safe. Yet many millions of young people are growing up on a sterile street without a backyard and often without a nearby and safe park or playground. As vicarious pursuits, virtual pets and synthetic playgrounds take over, shouldn't we worry that a world where children have minimal engagement with animals and plants might also be threatening to nature itself?

Asphalt, Concrete and Barrenness

Just as the high rise "projects" of the 1950s offered playscapes of asphalt gyms and concrete towers, the relentless destruction of vegetation by developers and the malling of recreational spaces indicate how little adults sincerely care or understand about children's contact with living things or the social isolation of the very poor.

One reason adults overlook the spatial and tactile needs of children is that they often do not recall what they most cherished or desired in childhood. As Coleridge lamented in *Biographia Literaria*, after the age of 6 the glories of childhood dim, and it is as if we were "dipped in the Lethe, which has produced such utter oblivion of a state so godlike." Thus writers and artists, children's books and environmental life writing become critical resources in restoring our touchstones of childhood memory. They deserve a lot more serious appreciation for those contributions.

As our sense of endangered survival on this shrinking planet becomes acute, children are our last frontier. A fitting focus for the year 2000, they represent 20 percent of our population but 100 per cent of our future. To the degree that we can envision them as triumphant go-betweens or heroic survivors, they shelter the imagination and sustain the hope of adults.

Yet the bodies and minds of children–the very spaces they inhabit–are under assault. Cuts in all sorts of public funding (and not just in welfare, the "umbilical cord through which the mainstream society sustains the isolated ghetto society" as journalist Mickey Kaus puts it) have altered lives. Firearms kill 15 children in the United States daily, and incidents of violence are changing the rules for play even at elementary schools as well as middle and high schools. The majority of teen mothers have suffered rape or other sexual abuse.

Continued on page 14

CHILDREN OF WAR

By John Woodford

Haunted by mass media images of children caught up in Nicaragua's civil war, Lin Baum traveled with art supplies to Nicaragua in 1985 "to find out for myself what was happening there and not rely on the news media."

Although she couldn't carry out her plans to paint in Nicaragua, that experience was informative enough to encourage the 1972 alumna of the School of Art and Design to save up for similar journeys. Over the next 17 years she perfected her mobile, makeshift studio techniques in trips to the Thai-Cambodian border, West Belfast, Mozambique and the Palestinian communities in Israel's Occupied Territories.

In 1990, she says, her Children of War Portrait Series "came full circle, when I proceeded to represent homeless children in Detroit," where she lives and works as a "traveling art teacher."

The Children of War series is Baum's attempt to personalize conflicts and traumas "that the adult world, consumed with vendettas" inflicts upon children.

Children, she notes, are not just victims but even "targets of the war machines–and not only targets, but at times abducted into service as child soldiers. War, for me, is the ultimate form of massive child abuse."

David Wilson, executive director and co-founder of the humanitarian organization War Child, estimates that, during the last decade alone, war-makers have killed two million children, orphaned four million children and inflicted psychological trauma on 10 million children. In February, Unicef, the United Nations Children's Fund, began for the first time to assign full-time advocates of children to its peacekeeping operations in response to "horrific reports" from its agencies in war zones throughout the world.

As Baum photographed children and began to depict them in her art, she thought it would be "artistic suicide to begin using figures in my art." But she did so anyway because "it helped me walk through the maze of propaganda. I would arrange an exhibit upon return and use storyboards to tell viewers what was going on in the scenes."

Today she senses a "renewed interest in realistic art that uses the human figure. Art is society. You don't want it to be propaganda first and foremost, so it's a tightrope. But as to content, I think it's no longer taboo to create art with social content. When I look at it, all this talk about the 21st century and globalism, I think it's important to ask, what is a human being? And where are we going? I want my art to be more than decorative. I want it to speak to people's souls or essence."

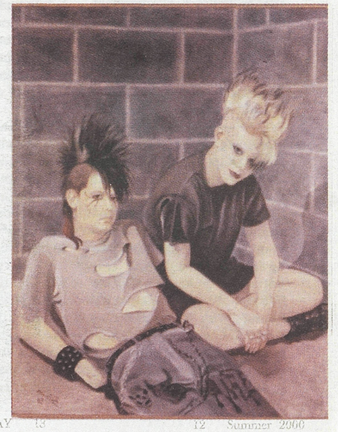
But in her role as art teacher for "ranging from kindergarten to their 80s," Baum keeps the materials and experiences from her trips out of the class work. "Students don't want an ambush of political statements," she says. MT

Photo by Blaise Tobia

Baum's "Children of War" series was displayed at the U-M School of Education's Secret Spaces of Childhood exhibit and symposium in 1998-99.

A Palestinian boy in his home in Gaza. 'Children collect the paraphernalia of war and use them as real war toys. They collect and play with them the way kids here collect Pokemon cards,' Baum says.

Gaza Boy, by Lain Baum, oil on linen 30 X 36 in., 1989.



Homeless teens in Royal Oak, Michigan, 1990. 'I include some children at risk in our own country in the Children of War Portrait Series. The series comprises roughly 40 oil paintings, 30 pencil drawings, photos and copy boards with background information.

Two boys in West Belfast, Northern Ireland, 1987. 'They were living in a Catholic area so dangerous that the bus driver said he wouldn't even charge me for taking me there. British soldiers were everywhere in groups of three, training rifles on pedestrians. Helicopters hovered constantly overhead. You took your life in your hands if you absentmindedly carried a Catholic newspaper into a Protestant bar.'

A refugee camp in war- and famine-ravaged Mozambique in 1988. 'I was setting up my makeshift studio in the dirt as I traveled. People, especially children, would come and watch me paint. A sitting took three or four hours.'

A girl carries water in empty oilcans on rice distribution day in Site 2 Camp on the Thai-Cambodian border, 1986. 'Thailand never gave the Cambodians official refugee status. The only help they received was from a small UN staff by day and a group of missionaries. Many of the children knew no boundaries beyond Site 2.'

TIME AND SPACE FOR CHILDREN

Continued from page 11

The Child as 'Menace'

On one hand we see childhood perceived as increasingly threatened, invaded, polluted or "stolen" by adults. On the other, we see adults characterizing children as menaces to society. Vagrant minors around the world search for safety in their hideaways, if they can find them, and street children from Cairo and Bogota to Seoul are seen but not heard. U-M anthropologist Sharon Stephens, who died in 1998, noted how easily "at risk" and "out of place" children–at work, in war zones, and refugee champs, in prisons and the media–become problematic "risky children" who need to be "eliminated . . . controlled, reshaped, and harnessed" in a rapidly changing global order.

One of the motives for controlling children is to make them well-behaved not as social beings with manners but as economic beings with wealth. The Kaiser Family Foundation has noted that children today constitute the fastest-growing consumer market in the United States and "influence half a *trillion* dollars in consumer spending a year." Child's play is increasingly moving indoors and on screen or into commercial and corporate realms. Other families, "stranger danger" and our own backyards are perceived as potential hazards, yet children, even in gated communities, gain access to zones in cyberspace once off limits to adults.

Children from low-income families face other problems, however. In a global village where the fierce devour the small, what future awaits those now shunted aside without adequate prenatal or nutritional care, housing and family support? Children can't join or support their largest lobby, the Children's Defense Fund, which had a $15 million budget in1996. (By contrast the American Association of Retired People in the same year spent $449 million.) Funds for maintaining school playgrounds have shrunk. Many schools have cut recess and gym from the curriculum, and some new schools are being built without playgrounds. Jack McCallum reported in "Gym Class Struggle" (*Sports Illustrated*, April 24 issue) that "only seven states require elementary schools to have certified phys-ed instructors" and 40 percent of high school students "are not enrolled in gym class of any kind."

A Worthy Project for U-M

In the complex ecology of growing up, children today can be impoverished in many different ways. Finding space for imaginative reconstructions of childhood–institutionally and internationally–in legal as well as academic and poetic discourse, is a project worthy of the University of Michigan.

To catalyze the rebuilding of urban communities, knowledge that is now being used to advance specialization and pragmatic programs must be organized to address social suffering in a less fragmented fashion. Children's health, development, welfare, education–as well as related ethical, legal, economic and religious issues–tend to be approached through separate disciplines and institutes. But as one of the world's top academic centers for social research, Michigan is in a leading position to develop an integrative, interdisciplinary focus on children and youth from birth to age 18.

Such an initiative could invite new courses, comparative research and collaborations from all its departments and units as well as those at other universities, community colleges, hospitals and schools. Partnerships like these could have a significant impact on public policy for the state, nation and beyond.

Already, U-M scholars and clinicians from Pediatrics, Anthropology, Education, English, Sociology, Film Studies, School of Information and Social Work are raising questions about the social construction of childhood, examining local and national child cultures from an international perspective and encouraging fresh approaches to thinking about the children in this century.

A core of relevant courses already exists, including "The Socialization of the Child," "Childhood Narratives," "Earth-Centered Children and the Virtual Age," "Anthropology of Childhood," and "Writing for Children and Young Adults."

The "umbrella theme" of Children's Studies could also capitalize on the insights and implications of numerous other University projects, including the following:

- The recent conference on the Multidimensions of Urban Children held at the Ginsberg Center for Community Service and Learning,
- The Law School's Child Advocacy Law Clinic,
- Meetings at the Center for Human Growth and Development organized by Director Betsy Lozoff to establish a Universitywide committee for children,
- The Child and Adolescent Network fostered by the School of Nursing,
- The National Science Foundation developmental sciences proposal spearheaded by the Department of Psychology and the Institute for Social Research,
- Matthaei Botanical Gardens, Kelsey Museum and Nichols Arboretum programs for children,
- The School of Information's Internet-focused Cultural Heritage Initiative for Community Outreach, and
- The Residential College's Emerging Voices: Coming of Age in Detroit intergenerational oral history project.

Detroit: an Influential Neighbor

In confronting intractable problems as well as opportunities facing those who grow up in this country's metropolises, the University must respond to the life patterns of Detroit; it is the big city the University is most linked to, and many of its youth are growing up in an economically stressed environment. One result of this is that although the number of Detroit youths has been declining since 1970, the proportion of new juvenile offenders, as opposed to repeat offenders, grew from 38 percent of the total in 1975 to 61 percent in 1990, before dropping in recent years.

To help the Universitywide endeavor suggested here, and outside child-serving agencies and programs as well, a curricular roadmap and guide to current faculty research would be very useful. A listing of current child-related offerings across the University would also encourage undergraduates, graduate students and alumni/ae to collaborate and build on each other's work across disciplinary terrains. This venture should have a Web page and newsletter to disseminate information and to support the development and achievement of children through a dynamic synthesis of the University's research, teaching and outreach functions.

The goal of an inter-faculty initiative in Children's Studies would be to make visible "best practices" in the field, to raise child-related questions in diverse academic areas and to investigate connections between projects already under way. What is the best forum to disseminate findings such as ISR sociologist Sandra Hofferth's on play, psychologist Albert Cain's insights on bereaved children or Stephen Kaplan's on children's cognitive mapping? What is the implication to U-M's intellectual leadership of the projected population shift that could make Latinos the largest ethnic group in 2010? What is the impact of U-M researchers' findings on how violence in the media and violent behavior and thinking induced by arcade and online killing games are affecting young people?

At the base of these myriad inquiries and projects is the fact that academics, lawyers, social workers, health care professionals all need a greater understanding of how adults conceptualize childhood as well as how research, policy and current events influence the lives of actual children. The concentration of these energies could evolve into an experimental endeavor reflective of the wholeness of childhood, drawing on the wide range of talented people and diverse disciplines to hold a mirror up to us–the people who form a child's human and material environment. MT

ON OUR COVER

Self-portrait by Antonio Turijan, who was 7 years old when he created it at the California Living Histories after-school project in Los Angeles, sponsored by the California Council For the Humanities and the LightBringer Project. The project is featured in the July* Michigan Quarterly Review, *The MQR's second issue on Secret Spaces od Childhood. We thank project directors Elizabeth Converse and Brad Macneil for furnishing this image.

U-M's South Africa Initiatives **By Leoneda Inge-Barry**

Career Lessons from the Biblical Joseph

DURBAN, South Africa–St. Francis Chapel African Methodist Episcopal (AME) Church sits high in the hills of Chesterville in Durban. On any given Sunday morning, residents of this predominantly Zulu township can hear the bold, harmonic voices of the choir flowing across those hills.

Absorbing the richness of this African environment was inspiring for Valerie Myers, a doctoral student in Organizational Psychology and Social Work. She chose this site to conduct one of several career development workshops to help teenagers and young adults "develop positive, realistic and healthful perspectives about work." Myers was one of 11 graduate student Moody Fellows to travel to South Africa last summer through U-M's South Africa Initiatives Office. (*See box and articles in SAIO series in our Fall 1999 issue–Ed.*)

"I've been interested in the role that spirituality can play in the workplace since my days as a manager in the automotive industry," Myers said. "I wondered how religion might help people cope with work stress and be more productive and creative at work."

Myers, who first got involved with "faith-based" programs at her Detroit-area church, worked in finance, marketing and product development for several years before enrolling in graduate school. But it was her research as a policy intern with a State of Michigan Family Independence Agency survey that helped focus her interests.

"Many long-term welfare recipients are working but still unable to escape poverty, which discouraged and depressed them," she learned in the survey. She also noted, however, that despite research showing that religion and religious organizations play an important role in helping people cope with such difficulties, "few if any faith-based programs have been designed to help welfare recipients achieve work and career success or to deal with obstacles at work."

Pre-Job Training

In graduate school, Myers applied relevant psychological theories and social work practices to her concerns and created a workshop series and accompanying workbook called *Stir Up the Gift Within You: A Christian Perspective of Work*. She describes it as a "work and well-being intervention" for people who must "negotiate structural barriers to employment, resist discrimination or cope with employment setbacks."

Stir Up the Gift was well received by the Rev. Fred Mayekiso, pastor of St. Francis Chapel African Methodist Episcopal Church in Durban, who let Myers offer the program to parishioners. Myers asked the class to consider the differences between thinking about work as a job, a career or a calling and to discuss the challenges and benefits associated with each approach.

Myers said that her recent research with doctoral candidate Laura Morgan and recent graduate Dr. Amy Wrzensniewski had already shown that people who saw their work as a calling "had lower levels of work stress and were more likely to be religious, but when they experienced stress it was more acute."

Myers concluded that people with a calling might benefit from better coping skills and that "since some people use religion to effectively cope with stress, a faith-based program seemed to me a natural progression."

Joseph Wore Several Hats

Myers uses the Old Testament story of Joseph to present work issues within a religious framework. Joseph, as she depicted him, wore not only a coat of many colors but many different hats, as well. At 17 years old, Myers pointed out in the workshop, he experienced the basic responsibilities and burdens of a first job and later career struggles.

Joseph is her prime example of someone who "balanced work and family commitments and gave back to the community" while dealing with the pressures of being "a member of a socially despised ethnic group that experienced segregation and oppression."

Thobeka Nyawuza, an 18-year-old in the class, frankly admitted that she had assumed Myers "would be boring," and was surprised to find *Stir Up the Gift* "was teaching us about dreaming, work and the Bible." Mlunigisi Sheleme, 22, added that it "helps to know we have a gift within us and we must stir it up to see the gift. I have family and finance problems. I want to go to school in chemical engineering. I'm saving one cent and one cent. I hope to go next year, but if I don't, one day I'll go."

Job Availability Is Key Problem

Although encouraged to find her program had transferability across cultures, Myers emphasized that "unemployment is at critical levels in South Africa, and all of the programs in the world will not help people work at jobs that don't exist."

On a broader scale, Myers sees her work as part of a trend in social work and public health that recognizes the "importance of religious and faith-based institutions in the lives of African Americans." Churches are "ideal sites for interventions," she said, "but I don't want to limit the program to churches since private sector institutions are also supporting religious programs at work."

Photo by Leoneda Inge-Barry

Valerie Myers (second right) with members of her 'work and well-being' class at a church in Durban, South Africa. 'My religious background enables me to design faith-based programs, and my academic training enables me to use relevant theories and analyze the results,' Myers says.

Studying Religion and Health

Several studies at U-M and elsewhere have established a relationship between religious involvement, prayer and health (*see below*). Some psychologists criticize the conclusions of faith-based studies as "not opinions born out of scientific research," Myers said. Others, however, contend that religion has been proven to help the ill and elderly cope psychologically while also lowering blood pressure and other factors associated with coronary diseases. National attention to such research can be tracked in academic journals such as the *Journal for the Scientific Study of Religion*, she added.

Those who would like to contact Myers about her program may e-mail her at valmyers@umich.edu. MT

Leoneda Inge-Barry is in the master's degree program in the School of Natural Resources and Environment. She was a Michigan Journalism Fellow in 1995-96.

Student-Exchange Fund

The U-M's Charles D. and Christella D. Moody South Africa Initiative Fund supports exchanges of students between the United States and South Africa. Contributions to the fund may be sent to SAIO, U-M Center for Afroamerican and African Studies (CAAS), 200 West Hall, Ann Arbor, MI, 48109-1092. Phone: (734) 764-5513.

Religion, Race and Health

The Research Center on Religion, Race and Health was established in 1998 to bring together the large number of researchers at the U-M and neighboring universities who are interested in the ways in which religiousness/spirituality affect the health of diverse populations.

The Center is headed by Prof. David Williams (Sociology and Institute for Social Research) and Assoc. Prof. Linda M. Chatters (School of Public Health and ISR), and is located within ISR's Survey Research Center.

The Center on Religion is holding its second conference in June.

Today's researchers are not just looking under the hood. They're also looking inside the mind behind the wheel.

The Science of Driving

By Nancy Ross-Flanigan
U-M News & Information Services

I'm cruising down I-94 at 70 miles an hour when a truck in the next lane suddenly cuts in front of me. I draw in my breath, and my foot hovers over the brake pedal.

"It's okay! It's okay!" my passenger says. "The car will do it for you."

And so it does. Without my doing a thing, the Chrysler Concorde I'm driving slows down enough to leave a safe gap between me and the truck ahead.

"Whoa!" I gasp. "That was cool!"

While I'm exulting, my passenger is analyzing. The car's response, the distance between it and the truck, even my hovering foot all are of interest to Zevi Bareket, a senior engineering research associate with the University of Michigan Transportation Research Institute (UMTRI). The car we're in has been outfitted with an experimental "adaptive cruise control" system, and Bareket wrote the computer programs that control the system.

Like regular cruise control, this system maintains a cruising speed that the driver specifies. But it goes a step beyond, into the realm of "intelligent transportation systems," by allowing me to set a minimum distance between my car and the one ahead. If we start to get too close, my car automatically slows down, braking if necessary, to keep the distance I've selected. If the car ahead speeds up or changes lanes, leaving me a long stretch of unobstructed highway, the Concorde automatically speeds up to the cruising speed I've chosen.

Systems like these may make life a lot easier for drivers, but they're also making it a heck of a lot more challenging for engineers. When cars were simpler and stupider, engineers considered how drivers responded to certain types of instrument displays or how easily they could operate the pedals but paid little attention to the minute details of all the things people do while driving. Now, as cars take over more and more of the tasks that drivers used to do, engineers are realizing they need a deeper understanding of just what those tasks entail.

"We're moving from the study of a vehicle as a big hunk of steel with a driver inside to looking at the dynamic system comprising a driver, his or her vehicle and the nearby highway environment. That is, we're trying to understand how the driver drives," explains Robert Ervin, head of UMTRI's Engineering Research Division. And in doing so, researchers are asking new questions, gathering and analyzing data in novel ways and arriving at fresh insights. With approaches that borrow from psychology and sociology, as well as traditional engineering disciplines, they're forging what Ervin calls a new "science of driving."

Instead of just looking under the hood, researchers are peeking inside the head of the person behind the wheel. They're asking questions such as, How does a driver decide when and how much to brake? What cues does the driver use before braking–the sight of a car looming up ahead? the feel of the road surface? a glimpse of motion off to the side? What makes a driver decide to change lanes? How much weaving from one side of a lane to the other is typical?

Cruising in the Concorde with Bareket, another question occurs to me: How does a driver react to a partially automated car that takes over some of the work of driving? It takes me a while to get used to the car slowing down and speeding up by itself. But gradually, I begin to trust its judgment. And then I begin to trust it too much. Exiting at a ramp with no car ahead of me, I forget for a moment that the system sees no reason to slow down. It only knows to do that when my car gets too close to one up ahead; it can't read speed limit signs or understand that negotiating a cloverleaf at 70 miles an hour could be disastrous. This time, it's up to me to brake.

Clearly, drivers' notions-and misconceptions-about where the car's job leaves off and theirs begins are things that engineers must understand if they are to design safe and effective driver-assistance systems. The need to collect this whole range of information about how people drive led UMTRI researchers to undertake one of their most ambitious studies.

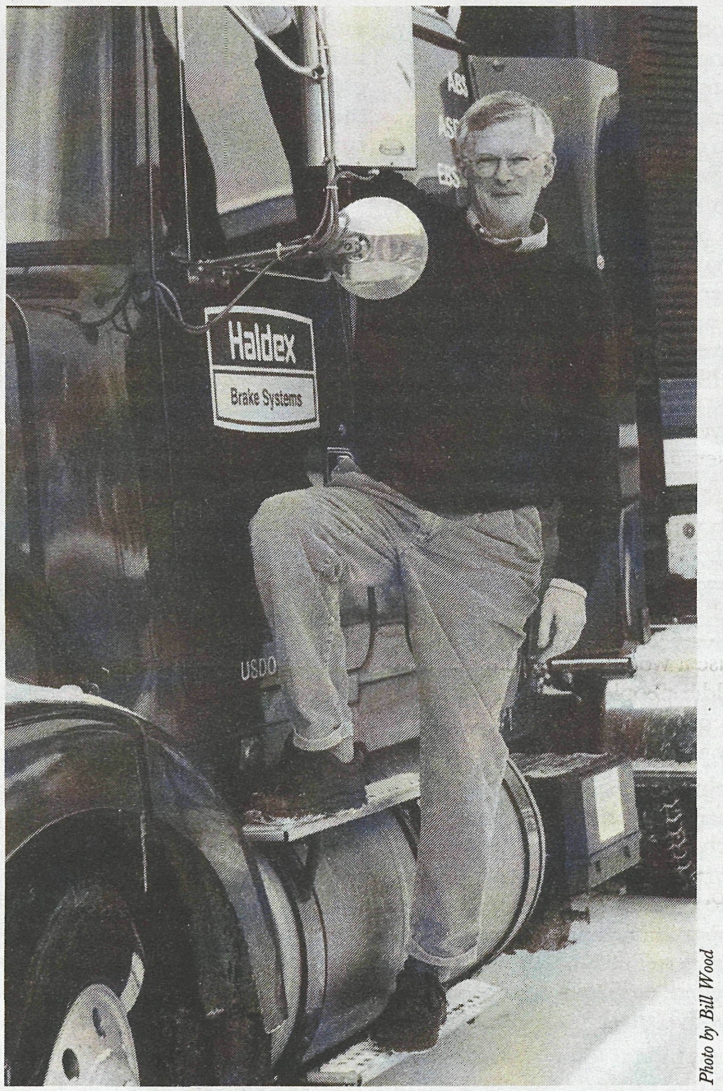


Photo by Bill Wood

UMTRI's Robert Ervin hopes to forge a new 'science of driving' that integrates information about drivers, vehicles and highway environments. In one project, trucks are equipped with an experimental device called a rollover stability advisor, designed to help drivers know if they're close to tipping over. The goal is to alert drivers to potentially dangerous driving behavior.

Over a period of 14 months, an UMTRI team trained 108 randomly selected southeast Michigan drivers to use 10 test cars equipped with both conventional and adaptive cruise control (ACC), then turned them loose to drive the cars as their own for two to five weeks. For the first week, drivers could choose to turn conventional cruise control on or off anytime they wanted. After that, the only choice was driving with or without ACC.

UMTRI researchers outfitted each of the 10 test cars with a data collection system, says Jim Sayer, an assistant research scientist with UMTRI's Human Factors Division. On each trip, onboard computers continuously collected and stored information about the car's speed and the gap between it and the vehicle in front of it. A global positioning satellite system collected data on the car's location, and a video camera mounted behind the rearview mirror recorded a view of the road ahead. A "concern" button on the dashboard was at hand for drivers to push any time they were concerned about or dissatisfied with ACC. The drivers also filled out questionnaires and participated in focus groups after returning their cars.

With 108 drivers spending a total of 3,049 hours on the road and traveling 114,084 miles, the UMTRI study yielded a huge collection of data that have already provided much valuable information.

It showed, for example, that drivers fall into several groups, classified by the strategies they use in traffic:

- Hunters–Those aggressive folks who whoosh up behind you and tailgate until you move over. They drive fast and like to lead the pack.

• Ultraconservatives–They are the opposite of hunters. They take it nice and slow, staying far behind the car in front of them.

• Flow Conformists or Gliders–This type travels at about the same speed and following distance as other cars around them.

• Planners–A shrewd bunch, they figure out how to drive fast without getting too close to the car ahead, a strategy that allows them to go for long stretches without touching the cruise control. (Bareket, who has logged more than 5,000 hours in ACC-equipped vehicles, falls into this category. Once, driving one of the cars to a technology show in the Upper Peninsula, he didn't touch the brake or accelerator even once between Ann Arbor and the Mackinac Bridge, a distance of around 300 miles.)

In the study, a given driver usually fell into the same category–hunter, ultraconservative, flow conformist or planner–whether on or off ACC. But the four types used the system differently. Flow Conformists, for instance, used ACC more often and set the system to allow longer distances between their vehicle and the one ahead. Hunters chose the shortest "headway" distance the system would allow but used ACC less frequently overall than did the other groups, possibly because it wouldn't let them tailgate.

Age was a factor, too. "Older people almost never used the 'close' setting, young people rarely used the 'distant' setting, and middle-aged people normally used the middle setting," says Paul Fancher, a senior research scientist with UMTRI's Engineering Research Division who directed the field test.

Like me, many drivers in the UMTRI study had to be reminded not to expect more of the car than it was capable of doing. They tended to use adaptive cruise control "when the world looked benign and there were fewer possibilities," Fancher says. "But they still did the tough stuff the way they always had."

Most drivers said they liked using the system, and an insight into its appeal came from data collected when they weren't using ACC. The researchers discovered that in normal driving, drivers press and release the gas pedal far more frequently than anyone would have guessed, and each use registered as a peak and valley on the UMTRI graph of their behavior.

"In an hour there can be a thousand peaks and valleys," says Fancher, "You can see why this would be fatiguing, even if people aren't aware of it. With ACC they don't have to work as hard."

A bound report nearly an inch thick details the project's initial findings. One UMTRI researcher already is sifting through it to try to learn whether time of day influences a person's driving speed and choice of roads. And Sayer is intrigued with the possibility of exploring relationships between personality type and driving style.

When drivers enrolled in the study, they were given the Myers-Briggs Type Inventory "personality test," often used in corporate personnel decisions. It classifies people by such factors as how they express themselves, evaluate other people and act on their feelings, and is correlated with scales of aggression, self-confidence and other traits.

As far as Sayer knows, no one has ever done a rigorous study relating driving style to Myers-Briggs, but there are clear reasons to take a look.

"You're hearing more and more about things like road rage on the news," he observes. "You can't help but wonder if there might be some relationship there."

Whether the science of driving can help soothe the savage road warrior remains to be seen. But gaining a better understanding of what all of us–hunters, flow conformists and the rest–do behind the wheel is an avenue worth exploring. MT

The author changes a setting that controls the distance between her vehicle and the one ahead.

How Adaptive Cruise Control Works

The adaptive cruise control (ACC) system used in the UMTRI study depends on two infrared sensors to detect cars up ahead. Each sensor has an emitter, which sends out a beam of infrared light energy, and a receiver, which captures light reflected back from the vehicle ahead.

The first sensor, called the sweep long-range sensor, *uses a narrow infrared beam to detect objects six to 50 yards away. At its widest point, the beam covers no more than the width of one highway lane, so this sensor detects only vehicles directly ahead and doesn't detect cars in other lanes. Even so, it has to deal with some tricky situations, like keeping track of the right target when the car goes around a curve. To deal with that problem, the system has a solid-state gyro that instantaneously transmits curve-radius information to the sweep sensor, which steers its beam accordingly.*

Another challenge arises when a car suddenly cuts in front of an ACC-equipped car. Because the sweep sensor's beam is so narrow, it doesn't "see" the other car until it's smack in the middle of the lane. That's where the other sensor, called the cut-in sensor, comes in. It has two wide beams that "look" into adjacent lanes, up to a distance of 30 yards ahead. And because it ignores anything that isn't moving at least 30 percent as fast as the car in which it is mounted, highway signs and parked cars on the side of the road don't confuse it.

*Information from the sensors goes to the Vehicle Application Controller (VAC), the system's computing and communication center. The VAC reads the settings the driver has selected and figures out such things as how fast the car should go to maintain the proper distance from cars ahead and when the car should release the throttle or downshift to slow down. Then it communicates that information to devices that control the engine and the transmission.—**NR-F.***

Collisions, Rollovers and Stop-and-Go

Adaptive cruise control is just one of several UMTRI projects that are using scientific techniques to better understand the driving process.

In cooperation with General Motors and Delco Electronics, the institute is field-testing a more advanced adaptive cruise control (ACC) system that incorporates collision warning. As in the original ACC test, UMTRI will turn 10 passenger cars over to lay drivers to use as their personal cars for several weeks.

Another project, run jointly with Freightliner Corporation, is evaluating a device called a rollover stability advisor in heavy-duty trucks. The device lets truck drivers know, on a continuous basis, how close they're coming to tipping over. Data also go to UMTRI, where they are translated into simple, straightforward reports. The reports then go to the trucking fleet manager, who can use them to give supervisory feedback to the drivers. The idea is to help drivers change potentially dangerous driving behavior. In the UMTRI tests, the device will be installed in six vehicles of a major trucking fleet.

And in a third project, begun in December 1999 and sponsored by BMW, UMTRI researchers will try to understand how drivers control their cars in stop-and-go traffic. "We're especially interested in categorizing all the things drivers consider in controlling their speed other than the spacing to the vehicle ahead of them," says Robert Ervin, head of UMTRI's Engineering Research Division. "The logic here is that we must begin to recognize all the things a driver is actually concerned with other than the one variable that an adaptive cruise control system tries to control: the headway or inter-vehicle spacing to the car ahead."

In all these projects, says Ervin, "we will be in the real driving environment with very powerful instrumentation, collecting empirical evidence of the actual driving process. Combining mathematical modeling techniques with various approaches for processing the test data, we hope to steadily compile a more orderly, scientific understanding of how people drive." MT

LETTERS

Little Brown Jug mystery solved

Alumna Marjorie Killins Bentley was reading about the history of the Little Brown Jug, which goes to the winner of the Michigan-Minnesota game and dates to 1903. When she read that the trophy "disappeared from the Michigan Athletic Administration Building" in 1930, and went missing until it was found by a gas station attendant in 1934, she decided to end the mystery. Here is her solution–Ed.:

AS I seem to be the only living person who knows what happened to the Little Brown Jug in 1930 when it disappeared from the U-M trophy case, I must tell this story.

I remember four giggling men (friends of my father, Roy) who arrived at our home one evening and asked if they could leave the Jug in our basement overnight. The only two whose name I remember are Bill Tuomy and Phil Pack. They left the Little Brown Jug for safekeeping and retrieved it the next day. Phil was known as the King of Practical Jokes.

An article in the Ohio State-Michigan football program of Nov. 20, 1999, states that the Jug was "found" by a gas station attendant in some bushes. As Bill Tuomy owned the gas station at Washtenaw Avenue and Stadium Boulevard, I can only assume it was planted there for those four years. Those where the days!!

Marjory Killins Bentley '43
Santa Monica, California

Digging up the past

"GRAVE: A place where the dead are laid to await the coming of the medical student." Ambrose Bierce, The Devil's Dictionary.

I read with considerable interest Linda Walker's article in the Fall 1999 issue regarding the history of medical education at the University of Michigan. I am writing today in reference to much more recent events here on campus directly related to those early days, and a facet of medical education touched upon in Ms. Walker's article. I am referring to what was evidently a medical dump uncovered in the course of excavating the basement of the new Randall Physics laboratory addition in October 1993.

As work was progressing on the foundation of the Addition, workers encountered this feature, containing among other things, the remains of numerous people, and enough patent medicine bottles and laboratory specimen jars that it clearly had to have come from the old medical school. Some discussion ensued regarding the disposition of this material.

The Office for the Vice President for Research convened an ad hoc committee with representatives from the Museum of Anthropology, the Medical School, and Central Administration to work out a solution. This was done, however the plan was basically sabotaged by the University business office, which evidently felt very uneasy about the proposed examination of these remains from the University's past.

I was a graduate student looking at what seemed to be a timely and exciting project, as I was reading medical history and taking gross anatomy at the time. My training is in forensic anthropology–I specialize in human skeletal anatomy, and in analysis of human skeletons from archaeological or forensic types of contexts. This was a project which was tailor-made for my training and interests. I had hoped the University would be supportive of this project, and it initially seemed they would be.

At about the time the anatomy department site was found, there were several other sites of a similar nature encountered in the course of construction activities in Georgia and Virginia. The Medical College of Georgia site was analyzed with full support from the university, and the Medical College of Virginia material was analyzed at the Smithsonian. The Georgia material was the subject of the Blakely and Harrington book Walker cites in her article.

To make a long story short, the skeletal material wound up being packed into salvage drums and buried in temporary storage, the glassware and lab materials were cleaned up and accessioned by the Museum of anthropology and the details of this unique piece of Michigan history remain a big question mark.

Until some space can be found to clean up the bone and examine it, it will probably remain swept under the carpet. I would still very much like to pursue this project because it would still give us a lot of positive information–this is hard evidence that could be used to address the questions of Michigan's alleged involvement in some multi-state transport of indigent southern Blacks to northern dissecting tables as Walker, and for that matter, Blakely and Harrington as well, discuss.

Perhaps the Southern states are comfortable enough with their own past that they can look at it now in a relatively objective retrospect, document it and say, "Look how far we've come." The challenge is out: Can Michigan do it as well?

Russell Nelson '98 PhD
Jackson, Wyoming

Reply– Judith A. Nowack, assistant vice president for research, Office of the Vice President for Research (OVPR) gave the following history about the 1993 award OVPR made to Prof. John O'Shea, curator of the Museum of Anthropology, on behalf of Russell Nelson:

Professor O'Shea said $18,000 would be sufficient to ship the materials to Indianapolis ($12,000), where the remains could be processed in their new forensics lab. It would cost an additional $6,000 to do "a variety of necessary baseline analytical procedures" (e.g. DNA testing, chemical assay, epidemiological assay).

Nowack attached a memo of support to the request, saying that the project would assist in "documenting 19th century medical practice and teaching, assist a graduate student in he completion of his degree, add to our understanding of the history of U-M and fulfill an institutional sense of obligation to do something meaningful with a unique set of human remains."

Following usual procedure, OVPR committed $6,000 and asked other units to share in the costs. Some agreed, some declined. The money was put into a Museum of Anthropology account. As of October 1998, the money had not been spent and O'Shea asked and received permission to use it for another purpose–radiocarbon dating of some other human bones.

Nowack says that providing funds for graduate student work is highly unusual for OVPR "because we consider our funds earmarked for faculty members." The University "picked up the tab for 'stabilization' of the remains in the 55-gallon drums and went to all the efforts of finding the temporary solution and guaranteeing the availability for future research."

The remains are stabilized, and perhaps someone will study them in the future, Nowack says.–Ed.

ONCE AGAIN Linda Robinson Walker, in "Grave Subjects: The Birth of the University of Michigan Medical School" (Fall 1999), turns history to entertaining and enlightening account, in spades. Keep her digging. (Heh, heh.)

Warren Keith Wright '80 MA
Arbyrd, Missouri

P.S. As with LRW on the Pray Diary, I read this article to my mother complete, then turned to the Letters to see if other readers had enjoyed her earlier piece as we did. "Look," I said, "somebody else started browsing it, then went back to read it complete too." Yes, Mr. Wright: you. Deja vu, all over again!

More label problems

RECEIVED a copy of *Michigan Today* and the mailing label includes the name of my ex-wife. Needless to say, my wife is not thrilled with this. Suggest that you only use the alum's name in the future.

Bruce Hotchkiss
E-mail

MY MOTHER, D**** B*****, was a 1969 graduate of the University of Michigan and receives *Michigan Today*. The problem is that the paper is addressed in her ex-husband's name, who is not a graduate of the University. She would like to have it changed to her name. Please drop me message if you could do this for her.

E-mail

We wish to repeat our previous apologies for the outdated and sometimes aggravating mailing labels that the computer system occasionally dredges up. The only way we can correct the labels is by receiving the proper information from our readers. We have no control over the process that constructs the labels. We will pass along your suggestions that only the alum's name appear on the label.–Ed.

'Dangerous Experiment'

ON PAGE 23 of the Spring 2000 issue I came across a review of *Women at Michigan: The "Dangerous Experiment" 1870s To The Present.* The title sounded so familiar I fished from my bookcase the paperback *A Dangerous Experiment: 100 years of Women at the University of Michigan* by Dorothy Gies McGuigan (who was a fellow freshman in Betsy Barbour House in 1931-32). It was a carefully researched book which must have been very helpful to Ruth Bordin.

And imagine my initial surprise to find an article on page six by Karl Leif Bates, my nephew! It will be my pleasure to alert a host of loyal family U-M alums to this interesting student project about which he wrote. I look forward to your mailings. They serve to keep me in touch with my alma mater 1,000 miles distant.

Barbara Bates Smith '36
E-mail

Mudgett/Holmes in novel

I HAPPENED upon the *Michigan Today* website while searching for information on Herman Mudgett [an 1884 Med School graduate and mass murderer aka H. H. Holmes–Ed.]. I found the article from your Summer 1999 issue about Mudgett being an alumnus. I thought you would like to know that in February a fictionalized account of Mudgett's life was published by Creative Arts Book Company. *The Devil's Rood* is a group novel written by Jacksonville University professor Bob Stanton and four of his former students, and is available through online bookstores, and it may be ordered as well. I would like to use the illustration on your website for the site I maintain to promote the book (http://www.devilsrood.com). I will link back to your site, of course.

Kathryn Lively
Norfolk, Virginia

Hispanic hues

THIS IS in reference to Ms. Ellison's comments on bilingual ed in the Spring 2000 issue. Why on earth does she refer repeatedly to Hispanics as "people of color"? I have known many Hispanics over the years, and their skin is as white as mine. (I am a WASP.) I was not aware that these Hispanics considered themselves to be "people of color."

Ben Ebling '56 MA
Saugatuck, Michigan

Business Catalysts

THANK YOU for your article on the U-M Business School and its new involvement with Catalyst [*"Glass Barriers Under Attack at the Business School" by Katie Williams in our spring issue–Ed.*]. This will bring a fresh perspective to the female experience at U-M B-School and will provide meaningful benchmarks as improvements are made.

My experience at U-M B-School in the late '70s was extremely challenging. For example, it was nearly impossible to go to professors' office hours without being propositioned. This and other circumstances put women at a significant disadvantage in the competitive struggle for top grades.

Thanks to the Business School for helping our daughters face a more level playing field–or at least letting them know that it isn't–in the years ahead.

Mollie Mossman, '80 BBA
Irving, Texas

Reminiscence of Wolverine Coaches:

SOME 50 years have elapsed since leaving Ann Arbor with a degree in Education (Physical Education, or as they tab it today, Kinesiology!). On the athletic field and various sport complexes, Michigan continues to be dominant in Big Ten competition. Today's recruiting, though disgusting to me, is a must in order to survive and keep one's record intact. This is in direct contrast to coaches in the pre-1940 era, who accepted the student athlete who had chosen to enroll and then strove to bring out the best in each individual. Starting line-ups were not composed of All-American high schoolers given "free-rides" such as the all-encompassing scholarships dangled in front of today's teenagers. In addition, rarely were certain junior college "prep schools" funneling questionable athletically inclined individuals, with regularity, into name universities across the USA.

As each decade passes I admire with greater intensity the philosophy of former coaches Charlie Hoyt and J. Kenneth Doherty in track, Cliff Keen in wrestling and Ray Fisher in baseball [*Fisher's baseball jersey was retired in May at a ceremony at the field bearing his name–Ed.*]. These men were outspoken in their sentiments and felt their assignment was to work with the talent that voluntarily reported and then Go To Work! Favorable records established by this foursome speak for themselves.

Students majoring in physical education, and usually craving to eventually coach at the college/university level, had introductory courses involving virtually every sport. With few exceptions (these being Fritz Crisler, Chuck Hoyt and Ray Fisher) head coaches conducted these sessions. Most memorable, though only an assistant, was loquacious, humorous and volatile Wally Weber!

Destined to be the legendary freshman football coach, he unquestionably was the gem to have working with football yearlings. His instruction was *alive*, and we awaited for each Wally Weber word to be dispensed! Aquatic and energetic Matt Mann kept swimmers' attention at a high level, as did Doherty with his own quiet and sincere approach to track. Johnny Johnstone handled the minor sports quite well.

Droll and somewhat mechanical presentations seemed to be the pattern of Cliff Keen and Bennie Oosterbaan, the latter handling both basketball and baseball. I often have wondered to myself how Bennie fired up his varsity squads for a game, as he certainly didn't arouse any do- or-die enthusiasm in his lectures to aspiring young potential coaches! Yet these two fellows did produce winning teams over the years. I also remember our one-time exposure to guest lecturer Fritz Crisler, whose talk was not of any great significance.

I would be remiss not to mention the impressions of three remarkable persons. Old Waterman gymnasium was home to Dr. George May and his able assistant Elmer Townsley (who was to die too young) with gymnastic routines that will always be remembered.

Lastly, anyone having had contact with Fielding "Hurry up" Yost will not forget this coach who took a Michigan team to the first Rose Bowl game in 1902. Having relinquished the position of athletic director some 30-plus years later, he followed Wolverine squads with zest and pride. In 1940, when the University of Chicago hosted the indoor Big Ten track and Field championship meet, he repeatedly strode the length of the infield exhibiting an overflowing determination. Attired in a weather-beaten fedora and an open top coat, the voice of this grand old man was to be heard bellowing out, "Here comes the Big M! Look out for the Big M!" Fortunately some of us, as sophomores, blended in with an already established solid team and won both indoor and outdoor titles.

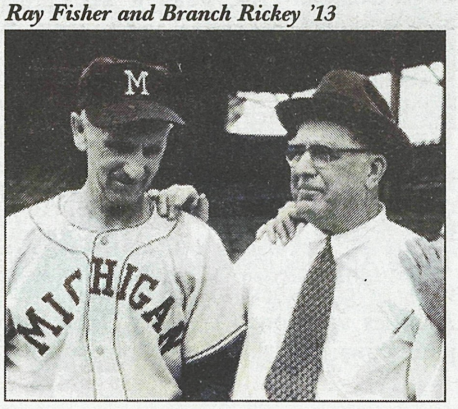
Despite having Maize & Blue 1941 teammates such as future U-M Athletic Director Don Canham; Warren Breidenbach, who took 2nd in the 880 yard run in the 1941 NCAA national meet; and Bob Ufer, who eventually held several 440 yard run records (and still later become "The Voice" of the airways at Michigan home football games), we weren't strong enough to keep Indiana from outscoring us in the chase for both indoor and outdoor Big Ten championship titles.

The war year of 1942 was further disappointment, and perhaps recruiting, as we know it today, was beginning to emerge on campuses across America. In a brief letter some years ago to the *Michigan Alumnus*, I intimated that the pressure to recruit was probably the main reason for the voluntary departure of J. Kenneth Doherty.

Of the 16 to 18 freshman physical education enrollees of 1938, only five of us were to attend 1942 commencement exercises in Yost Field House. A similar attrition marked the 42 freshmen track team aspirants in '38: only six of us graduated four years later. Academic failure, loss of interest and departure for military service took their toll, but what memories are coveted by those of us remaining!

John Kautz '42 Ed.
Fairfield Bay, Arkansas

Ray Fisher and Branch Rickey '13



Kilimanjaro in Tanzania

RE THE picture on page 23 of the spring 2000 issue: If Bob LaPlante is atop the summit of Mt. Kilimanjaro, he is in Tanzania at an altitude of 19,340 feet.

*Our mistake on the country. As for the altitude, apparently at 19,121 feet, author LaPlante '48 (*The Ten Million Mile Man, *Rutledge Books, 1999) was 219 feet below the summit when the photo was taken.–Ed.*

Carl Stein
374 Guerrero Street #5
San Francisco, CA 94103

Kempner, Faulkner and Chafets

AVIVA KEMPNER'S article regarding the death of her grandparents at the hands of the Nazis along with the article on the architect Ken Faulkner brought to mind my days at the school of architecture in the 1950s. Questions came up at that time: Who were the architects that designed the concentration camps–were they willing or were they forced to cooperate? We're familiar with some of the professionals that collaborated with the Nazis–doctors, judges, lawyers–but what about architects?

Most of us know of Albert Speer, Hitler's architect who fell completely under the dictator's spell and designed many projects for the Nazi party. Later he was appointed Minister of Armaments, having total control over Germany's war machine including the slave labor.

The architect Walter Dejaco is not as well known. He was the designer of the notorious death camps at Auschwitz-Birkenau. When they were completed, he was so proud of his work that he displayed the plans in his office until the SS told him to remove them because the projects were secret.

Another architect from Frankfurt, who later became a German officer and a member of the Gestapo, was responsible for the murder of thousands of Jews.

But through the darkness that these architects have cast over the profession shines a bright light of a great architect–Raoul Wallenberg. After graduating from U-M School of Architecture he worked in the Royal Swedish Legation in Budapest, and through his courageous efforts saved thousands of Hungarian Jews from the Nazi death camps. His disappearance at the end of the war into the Russian prison system was a great tragedy that continues to haunt us to this day.

Roy A. Euker '58
New York

AGAIN, I thoroughly enjoyed the recent issue, in particular the stories about Ken Faulkner and Hank Greenberg. I knew Greenberg had played baseball but little else about him. I still remember reading in *Michigan Today* ["The Transformation of Benjamin Carson," Feb. 1989 issue, by John Woodford] the biography of the neurosurgeon Ben Carson, how his mother required that he and his brother read and report on books weekly. It was only when he became an adult that he learned that she was illiterate! Now he is famous, and there are even children's books about him. I can say that I read it first in *Michigan Today*. Why don't Hunter and City Colleges (CUNY) have such interesting newspapers?

Claudia Zaslavsky
New York

Zaslavsky's Africa Counts: Number and Pattern in African Culture *was reissued in paperback by Lawrence Hill last year. Her other books include* Multicultural Math: Hands-On Math Activities From Around the World, *Instructor Books, 1996.–Ed.*

FIRST LET me say how terrific I think *Michigan Today* has been lately. I also get the Stanford publications because I got my MA and PhD there. I hate their slickness and shameless commercial appeal. In contrast, you provide food for thought. I am especially interested in the fine arts, but you have provoked me to think about other issues also. I enjoyed reading about the alums [*Expatriates Zev Chafets, Israeli author, and Ken Faulkner, British architect–Ed.*] who have gone abroad and about that terrific anthropology professor [*Roberto Frisancho, subject of "A Professor Takes the High Ground"–Ed.*].

Jane Fowler Wyman
Menlo Park, California

SINGLE MALE FACULTY MEMBERS BONDED
IN BACHELORHOOD'S GOLDEN DAYS OF 1900-43

Activities of The Apostles

By Grace Shackman

Photo courtesy of U-M Bentley Historical Library

The original 12 Apostles in 1900-01 photo watch John A. Fairlie (left) and Eugene C. Sullivan play chess. Surrounding the players are (l-r) Walter B. Escott, Alexander Ziwet, Alfred Holmes White, Walter B. Pillsbury, George Hulett, John S. P. Tatlock, Max Mikler, H.D. Carrington, Isaac Newton Demmon and Frederick Dunlap.

The Apostles, an organization for bachelors on the University of Michigan faculty, received a lot of kidding about their unmarried status. "Banding together for mutual protection" was how a 1908 *Detroit News Times* article described them. "Three times a day they indulge their appetite for pie, cake and coffee and discuss–who knows–perhaps the affairs of the other fellow's heart."

But Apostle Frank E. Robbins, in his 1932 history of the group, protested against the commonly held idea that club was to "cheat cupid." The Apostles "crave comfort and cheerful company at mealtime, this is the sole reason for the club's existence," he wrote in "The Apostles," a work preserved in the archives of U-M's Bentley Historical Library.

Gail Kellum Curtis, widow of Professor of Geology Lewis Kellum, who was an Apostle before he married, backed Robbins. In a telephone interview, she said that her husband had "joined primarily because he wanted a place to live, not eating out all the time–to generally have a community."

A 'House Mother' Ruled the Roost

The Apostles club existed from 1900 to 1943. Most members were young men, and many went on to hold important positions at the University or the outside world (see box). Members fitted as many as possible into the boarding houses they lived in, while the rest roomed nearby. They kept the membership low, somewhere in the teens, so that all could eat around the same table. "They had what you'd call a 'house mother' if they weren't so mature," Curtis reported. "She managed the house."

Besides eating and sleeping, the group admitted to a third purpose, "recreating," as it was called in their bylaws. They amused themselves in a range of activities from playing baseball against a team known as the HPH (henpecked husbands) to formal dances to hosting parties known as "At Homes." Ann Arbor was a small town in those days (fewer than 15,000 residents when the club formed), and society more rigid and formal. By joining together, the Apostles could hold a position in society without the expense of trying to run a house by themselves on a junior faculty salary.

"The club came into existence in 1900, by the simple process of covenanting with their landlady, Mrs. [Elizabeth] Stowe, to eat together and share the cost," Robbins wrote. All the references to the group agree that the name "Apostles" came from Sarah Caswell Angell, wife of U-M President James B. Angell (term of office 1871-1909), although the reasons differ. Some say it was because there were originally 12 of them, while others say the name referred to their inherent goodness and because they would pose as martyrs at times. There is no indication that they were named after the secret intellectual society of that name at Cambridge University in England.

The Apostles moved from their original quarters at 1218 S. University several times over the next four decades. Their first move was to 1008 Hill St., which had table room for all and living space for some. In 1913, they moved to 819 S. State, "where the proximity of Ferry Field [predecessor of Michigan Stadium] made entertainment of guests on football days a natural and pleasant custom." In 1924, they bought their own house at 1015 Church St. after Charles Fessenden (engineering professor) and Phil Weatherill (chemistry professor) had figured out the finances of the transaction.

Punsters Were Fined

Meals, the central Apostolic activity, were a time of great fun. A member with the office of "bouncer" maintained order. Puns were fined (which must have resulted in a large kitty, because, as the reader will soon see, their papers are full of puns), as was boastfulness. "It has been ruled that the answer 'no' to the question, 'have you ever been fined?' constitutes boastfulness," Robbins noted.

Alfred Oughton Lee, a professor of modern languages and the history of medicine, was bouncer until his 1912 marriage, after which he was called "bouncer emeritus and bouncer in perpetuo." His obituary stated that "his impressive stature and build made him the natural occupant of this position."

The group ate well if a sample 1911 menu from the so-called "Hotel Apostolique" is typical. It included both roast lamb and "roast duck a la Hale" (a reference to member William J. Hale, professor of chemical engineering and later director of organic research at Dow Chemical Co., who got kidded about a duck hunting incident whose details are lost to history). Applesauce, wafers, celery, pineapple and asparagus on leaf, and cranberry tarts completed the meal. Another menu contained such punny dinner fare as "artie jokes," "conserve of archives" and "clear noodle soup." The menus alone could have filled the kitty for punning.

After dinner, the Apostles adjourned for "postprandial activities," mainly games or music. Hale, Alexander Ziwet (math), and E. L. Adams (a language professor) played chess. The so-called "varsity" bridge team turned to cards. For a while "Go" was the rage–not the Japanese game by that name but a form of double solitaire used as a gambling game. Robbins recalled that it was played "by as many persons as possible and as much noise and gusto."

Devotees of 'German' Walks

Some preferred to spend their free time making music, including Hildebrandt, who in addition to being a math professor played the organ at area churches, and Hayden, who played the piano. One year a group of Apostles specialized in learning African American spirituals. They also participated in outdoor activities. "They took walks together. That was considered very German," said U-M pediatrician Mark Hildebrandt, son of T. H. Hildebrandt. Three Apostles owned a horse together, while several others shared a canoe. Some Apostles vacationed together. They also jointly owned pets. Group photos identify

W.J. Hale

a dog named Gomez living at the State Street house, later replaced by a Mike.

Periodically the Apostles extended their entertainments to invited guests, doing so on a lavish scale. It gave them a good excuse to invite women they were courting as well as to repay hospitality they had received from married friends. They sent out formal invitations to "At Homes" to which recipients were expected to RSVP.


A. Ziwet

They hosted a number of dances at Granger's Dance Studio, at the Packard Academy and the Michigan Union. One soiree at the Union included a live band, refreshments and six card tables. The Churchwardens, a rival bachelor organization of unmarried instructors, repaid hospitality by inviting the Apostles to its yearly dance at the Washtenaw Country Club on Packard. Transportation was provided by a special interurban car hired for the occasion.

The Churchwardens also challenged the Apostles to a foot race that became an annual event at the Washtenaw Country Club. The two groups also vied on the baseball diamond. After World War I, when the two groups merged, the baseball games continued with the opposing team made up of married faculty–the previously mentioned "henpecked husbands." An undated newspaper article relates the story of the Apostles' practicing for the big game with neighborhood kids 12 or so years old, and getting beaten soundly. A picture taken at one of the games helps explain why: The Apostles are all wearing suits and ties and dress shoes.

Waggishness Was the Word

The Apostles were more adept at intellectual sports than physical ones. The archives are full of silly/clever items: a resolution that a holiday known as "Uncles Day" be established; phony telegrams from such well-known people as Al Capone and the English royal family; a "hereto unpublished translation of an ancient manuscript relating to the Acts of the Apostles"; pieces written in German and Latin; and some clever cartoon drawings.

A phony legal brief indicts Hale for such crimes as "playing the instrument known as the pianola in a vile and boisterous manner, thereby causing much anguish and pain amongst his colleagues."

An ad for a great remnant sale states "owing to our unprecedented success in disposing of our various lines of bachelors this year, and as the season is now drawing to its close, we propose to offer the remainder of our stock at sacrifice prices." The piece went on humorously to describe the Apostles' leading candidates for matrimony.

Members left the group for a number of reasons, such as the economic constraints of the Depression or because they left town for jobs elsewhere for reasons of economy. But the most common reason for leaving was marriage. A core group remained confirmed bachelors, however, and died as Apostles.

Bachelor Varieties

The first question people ask today when told about the Apostles is, "Were they gay?" Although some may have been homosexuals, that lifestyle was certainly not part of their declared or perhaps even conscious mission in the early 1900s.

In his doctoral dissertation, *I Have No Genius for Marriage: Bachelorhood in Urban America, 1870-1930*, historian Peter Laipson '00 PhD says American bachelors in that era became either consumers or creators of "domestic environments" that provided them "both the amenities and affectional relationships characteristic of home." The bachelor's "domestic ideology," Laipson says, was "characterized…by an absence of women [and] by an emphasis on the volitional nature of binding ties" among the men. Many single men experienced "a profound tension," he says, between their twin desires for close friendships and for individual freedom. As a result, "bachelor domestic ideology simultaneously facilitated homosocial camaraderie and preserved men's independence," Laipson says.


F.E. Robbins

As far as sexual inclinations went, most seem to have been heterosexual, but slow-starters. Kellum married at the late age of 56, but had a family of four children and two stepchildren.

Like many Apostles, Preston Slosson had gone to an all-male Ivy League college, in his case Columbia. A member from 1924 until he married in 1927, Slosson wrote in his autobiography, *A Teacher's Report Card:* "I always liked the girls I knew, and those I did not know I thought a pleasant background; but, tho an ardent girl-watcher, I was a rank failure as a girl-catcher. I had no small talk, I had never learned to dance, and most of my schools had been for boys only. So my S. Q. (social quotient) was decidedly low."

When a member became engaged, the Apostles would host an announcement dinner "as a prelude to his retirement." It provided a chance for more rhyming. When chemistry Prof. Floyd Bartell got engaged, Robbins wrote a poem that said in part "…our friend Bartell/had pledged his hand and heart and limbs/forever to Miss Lawrence Simms." Referring to the couple's courtship, he continued:

It shows us clearly, I'll assert,
that driving a car's a dangerous sport.
A man, a maid, a car, a moon,
then wedding bells for two, some noon.

The Apostles' archives at the Bentley Library include numerous notes from the wives of ex-Apostles for wedding presents. Alexander Ziwet, according to a memorial in historian Arthur Lyon Cross's papers, "contributed freely to the customary apostolic wedding gift but also gave a beautiful individual present; yet to my knowledge he never attended a wedding."

Ziwet was a charter member and remained an Apostle even after retirement and failing health. His memorial says, "Although a generation the senior of the other oldest members and although he usually had little to say, he was such a courteous and interesting listener that he constituted a most harmonious element in an organization composed largely of younger bachelors. … Until recent years on request he would linger a bit for a hand of skat or a rubber of bridge, until failing health obliged him to discontinue the practice. Advancing years and failing eyesight led to the inevitable relinquishment of all diversions until his only recreations were walking to and from his meals at the Apostles club."

When a member left, his replacement was chosen by the remaining members from the ranks of unmarried men at the University. Faculty directories of the day were slender booklets with notation "(m)" identifying the ineligible people. Sometimes married men were let in on a temporary basis while their families were "sojourning abroad," as Robbins put it. Visiting professors coming without wives also were eligible to be Apostles during their stay in Ann Arbor.

The Apostles lost many members during World War I. The three ROTC members who joined did not make up for the 10 who left for various military duties. But the club recovered after the war by merging with the Churchwardens, whose membership also had shrunk. World War II was a different matter. So many Apostles left for war that it was hard to keep the house going. Kellum, the last Apostle treasurer, wrote in his 1943 report that one room had been vacant all year and two more for part of the year, that food prices were up, and that it was hard to get competent help. "I paid the bills, but had to take out of surplus," he noted. Finally, the remaining Apostles had no option but to sell the

Continued on page 22


Shaw Collection, U-M Bentley Historical Library.

Apostles at card play, circa 1915. Left to right: A.O. Lee, Philip Bursley, W.H. Hobbs, W.C. Titcomb, S.C. Lind, C.A. Hibbert, H.C. Sadler, A.L. Cross, J A. Moyer.

The Apostles

Continued from page 21

house. Former Apostle James Hart (Political Science) wrote in December 1944, after hearing about the group's fate, "As a young bachelor–I am still a bachelor but no longer young!–I got a great deal out of the associations at the club and shall never forget those days. I still consider myself in spirit a member, and hope that the club is not permanently dissolved. Such an organization is a great thing for unmarried faculty members of whom there will probably be more . . . at present [than] in normal times."

Hart may have been right that there were more unmarried men right after the war than at normal times, but other factors had come into play. After World War II, the whole social structure that made being a bachelor such a defining state changed. Throughout the country and beyond, the social divide between the sexes became less gaping. At Michigan, evidence of the changes included the opening of the Michigan Union to women and the merger of the activities of the previously segregated female Michigan League and male Union. The 1960s made social life and living arrangements more casual. Cooking and housework became the province of both sexes. The existence of a group like the Apostles shows how different life was in the first half of the now past century. MT

Grace Shackman '65 writes and lectures about Ann Arbor and University history.

Some Notable Apostles

Frank Robbins, originally a professor of Greek, became an assistant to President Alexander G. Ruthven (term of office 1929-51). **Wilfred Shaw** was head of the Alumni Association. **Jean Paul** Slusser directed the Museum of Art. **Preston Slosson** was a professor of history and noted author. **Theophil H. Hildebrandt** headed the Department of Mathematics. **Leon Makielski** was an artist whose works are still sought after. **Aubrey Tealdi** designed the University Arboretum. Law professor **John Fairlie** was appointed by President Franklin D. Roosevelt to be on the Waterways Commission. **Joseph R. Hayden** of the political science department became vice governor of the Philippines.

U-M BOOKS

Suggested reading: books by U-M faculty and graduates, and works published by the U-M Press. Our Web Edition contains information on many other U-M books.

WHEN THE EARTH EXPLODES
By Buck Dawson '43, '48, Nova Science, Commack, NY, 1998, hardcover $23.95.
Amateur volcanologist Dawson (See "The Adventures of Buck Dawson" by Linda Walker, Fall 1996 MT), argues that volcanoes cause 95 percent of global air pollution, El Nino, the hole in the ozone and Bermuda Triangle disappearances. In the book's historical, less controversial section he pieces together eyewitness and other accounts of the six most significant eruptions in history, from Vesuvius in 79 AD to Katmai, Alaska, in 1912. Other topics include Mt. St. Helens, Atlantis, dinosaurs, the parting of the Red Sea and others. Ancient people worshipped volcanoes, Dawson says, because it was volcanoes "that giveth and taketh away."–JW.

THE FAILED PROMISE OF THE AMERICAN HIGH SCHOOL 1890-1995 *By David Angus and Jeffrey Mirel, Teachers College Press, NYC, paper $26.95.*
When American educators introduced "democracy's high school" in the 1920s, they based the concept on two key points: students would be assigned to courses that reflect their perceived ability; but most high school students were incapable of and had no need for serious academic study. "Rather than furthering equality," write Angus, U-M School of Education professor of educational history and policy, and Mirel of Emory University, "these ideas spurred the creation of high schools in which students followed increasingly separate and substantially unequal educational programs. Few ideas have been more destructive to equal educational opportunity or to democratic education .... [O]nly a small percentage of students [were provided] the opportunity to master the knowledge and skills that might lead to power and success in American society."
By the 1930s, students were sorted along class, racial and gender lines. Educators also introduced intelligence testing as a means by which to offer a scientific rationale for the differentiation of students. Students of supposedly low ability were offered watered-down courses. "By the middle of the 20th century, education aimed at the lowest common denominator had become the norm in America's high schools." The authors propose reform measures, including raising teacher standards and graduation requirements, and introducing national standards in all academic subjects at all levels.–**Amelyn Reyes.**

TO BE A KID
By Maya K. Ajmera and John D. Ivanko '88 BBA, Charlesbridge, Watertown, MA, 1999, hardcover $15.95.
An international photo gallery of children from every continent, *To Be Kid* is ideal for youngsters and those who read to youngsters to acquaint them with their young neighbors around the globe. A celebration of childhood in full color, with more than 60 photos.–**JW.**

Nepal. Photo by John Ivanko '88

'To be a kid means being carried by those who love you'

THE KINGSLEY HOUSE
By Arliss Ryan '71, St. Martin's Press, NYC, paper $25.95.
The House that Nathan Kingsley built in Livonia, Michigan, in the 1840s was home to his descendants for more than 100 years. Alumna Ryan, his great-great-great granddaughter, was drawn to the history of her family because they represented "ordinary people who built America with their own hands," she told *MT*. Relying on documentary evidence when she could, Ryan imagines her way through the generations, recounting the brutal taking of an escaped slave the family had sheltered, the deadly sweep of a diphtheria epidemic and a scoundrel's schemes to bilk his wife out of her property. By the end of this beautifully written and absorbing novel, the reader is glad to know that the real Kingsley house has been preserved and restored and now stands in Livonia's historic village at Greenmead where it is open to the public.–**Linda Robinson Walker.**

BY WONDERS AND BY WAR
By Carol Williams '46 MA, Chicago Swiss American Historical Society, 199, paper $19.95.
Scholars are finding that the everyday lives of people in out-of-the-way places can tell us more about what it was like to live during world-historic events than do the main stage deeds that textbooks record. Novelists, as Williams shows in her tremendous tale of Swiss immigrants in South Carolina during the American Revolution, have always known this. What residents of Bosnia or the Congo experience today, American communities experienced in equal measures of chaos, bloodshed and tragedy in the partisan conflicts of South Carolina and other hotspots. Williams accomplishes her goal of awakening us to larger areas of our heritage than we were likely to know about before.–JW.

THE JEWEL IN THE BOX

CONTINUED FROM PAGE 24

Pine and Hibiscus (1489). Handscroll, ink and color on paper, by Shen Chou (1427-1509). 9 1/4 x 32 inches.

Shen Chou was among a group of Ming dynasty gentry who gathered talk, create art or write together. This painting was a gift to T'ang Hsia-min, a poet who lamented his seven failed attempts to pass the civil service examination given once every three years. In the accompanying poem on his humiliation, T'ang wrote: "...everyone captivated by beauty strives to win its affection; yet no one bothers to pity the lonely pine beside the mountain stream."

Marshall Wu explains the symbolism of the painting and poem: "As hibiscus blooms late in autumn, it represents the late success T'ang longed for. As pine possesses a cold resistant nature, it is analogous to T'ang's perseverance."

Travelers on a Mountain Pass. Hanging scroll. Ink and light color on silk by Wu Wei (1459-1508). Gift of Dr. and Mrs. Clyde Wu. 122.5 by 56 3/8 inches.

Talented, temperamental and hardly a teetotaler, Wu Wei of Nanking died at 49 of excessive drinking before he could accept an emperor's summons to come paint in the capital. An earlier emperor had also brought the "Champion Painter," as he was known, to Peking, but disgruntled eunuchs at the court got him dismissed.

The painting shows a master astride a donkey accompanied by two servants as they journey through a cold mountain valley (the lack of soles on the servants' feet suggesting the presence of snow). Wu Wei often painted with sweeping, spontaneous strokes, Marshall Wu notes, a free style that was "perhaps the result of his frequent intoxication."

The Orchid Pavilion Gathering. Handscroll, ink and color on silk by Sheng Mao-yeh (1594-1640). Margaret Watson Parker Collection. 12 3/8 x 86 inches. (See painting on page 24.)

"The setting of Sheng Mao-yeh's painting is a specific party held by 41 scholars who joined a Spring Purification gathering held in 353 AD," Wu says. The painting shows several episodes, beginning with two scholars and a servant approaching from the right. The gathering captured the imagination of artists and poets ever since "because of the presence of a distinguished guest," the great calligrapher Wang Hsi-chih (shown composing at the table). Even today, Wu says, calligraphy students strive to emulate Wang, who composed a prose work "The Orchid Pavilion Preface," for an anthology of the guests' poems. The preface is "a rhapsodic description of the gathering, the surroundings and a sentimental lament for the fleeting world."

Lady in Her Study With Attendants. Hanging scroll, ink and color on paper by Kai Ch'i (1773-1828). Margaret Watson Parker Art Collection. 38 x 17 inches.

The family name 'Kai' means change and is "neither traditional nor common in China," Wu says, and he speculates that Kai may have descended from the Muslim Turkish Uigur minority nationality.

Painters of idealized female figures tended to have lower class status than landscape painters and to be allowed less artistic freedom. Thus, women's eyes were required to resemble either a crescent moon or the leaves of the willow tree. Depicting a female scholar was quite unusual, as were such scholars themselves; "for the most part, young women were trained to be good housewives." Literacy in women was feared as a source of "troublesome ideas." Wu says Kai may have been courageously protesting the "inequity and mistreatment of women" or simply amusing a patron.

Red Bird on a Tree Branch (1918). Folding fan mounted on bamboo ribs, ink and color on paper by Chin Chang (1884-1939). 12 5/8 x 18 inches.

One of the most renowned female painters of her era, Chin Chang sent to London at 16 with her three brothers and studied English culture and Western art for five years. The red "longevity" bird was popular in flower-and-bird painting, Wu says, but it isn't known whether such a bird ever existed or was the invention of genre painters. Chin Chang lived in Paris, Cuba and Mexico when her diplomat husband served in those countries in the early 1900s. MT

The Orchid Pavilion Gathering, an 81/2 x 12-inch softcover two-volume boxed set, is available at $60 from the Museum of Art Bookstore and is distributed by University of Washington Press. Orders may be placed by calling 1-800-441-4115 or via e-mail at uwpress@u.washington.edu.

A catalog of 60 great Chinese paintings from the U-M Museum of Art

THE JEWEL IN THE BOX

The Orchid Pavilion Gathering. Handscroll, ink and color on silk by Sheng Mao-yeh (1594-1640). *See page 23 for details.*

In ancient times there was a wealthy man who possessed all the blessings and trappings of wealth, yet still felt empty and unfulfilled. One day he gathered his family and announced that he was traveling to a faraway place in search of a great treasure. He left the next day, journeyed many thousands of miles and experienced all manner of tribulations. Finally, he found the treasure he sought–a precious jewel sitting in a beautifully ornate box. Overjoyed, he picked up the box and became fascinated by its tremendous appeal. Consumed by his preoccupation for the box, he cast the jewel aside and returned home with only the empty box. When we study Chinese painting today, if we concentrate only on the accumulation of knowledge and overlook the elegant transcendence manifested in each work, we partake in the tragedy of the old man in the ancient fable.

With that tale, Marshall P.S. Wu '88 PhD suggests the context with which he hopes readers will approach his information-packed, 600-page catalog of 60 masterpieces in the collection of the University of Michigan Museum of Art (UMMA). *The Orchid Pavilion Gathering: Chinese Painting from the University of Michigan Museum of Art* catalogs a UMMA exhibit this year of the same name. Both the catalog and exhibit were sponsored by the Ford Motor Company, and additionally supported by a gift from William Steen '42 and Mrs. Steen of San Francisco.

Wu, the Museum's senior curator of Asian Art, explores Chinese painting from the 12th century AD Sung dynasty to the 20th century. The catalogue is, in a word, sumptuous: two volumes packaged in an elegant slipcase, a 404-page first volume containing more than 90 color reproductions and commentaries on each of the 60 featured works, and a second volume of 194 pages full of mini-essay footnotes. In addition, there are 120 black-and-white drawings, photographs and many dozens of collector's stamps, seals, calligraphy, and translations of inscriptions, colophons (commentaries) by the artists, their friends, collectors and others, presented in both Chinese and English.

Anyone–from curious layperson to scholarly expert to book or art collectors–interested in Chinese painting, Chinese history or art in general will find this work a treasure of beauty, history and reflection. Wu's discussions of each work are fascinating explorations of authorship and biography, social and cultural history, connoisseurship and the evolution of Chinese painting aesthetics and major schools. The companion volume of footnotes features numerous sections of collected Chinese writing previously unavailable in English.

UMMA Director James Christen Steward notes in his foreword to the catalogue that because they approach their subject matter "from the broadest cultural and historical perspective," the volumes have "much to offer American students of all ages." Wu offers "a vital point of entry into a complex and ancient society whose modern-day inhabitants' fortunes are intricately linked to our own," Steward says.

MARSHALL P.S. WU

Born in Shantung, China–the birthplace of Confucius–Marshall Wu spent part of his childhood under Japanese domination after Japan invaded northern China. After World War II, he left for Taiwan during the Communist revolution. He trained as a painter, graphic designer and art historian, and was also curator of exhibitions at the National Palace Museum in Taipei, home of the world's premier collection of Chinese paintings. He was assistant curator of Asian Arts at the Honolulu Academy of Arts before becoming senior curator of Asian art at the U-M Museum of Art, where he has overseen the collection for 22 years.

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