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**ON CAMPUS**

**NCI Designation Puts Cancer Center at the Top**

The National Cancer Institute has designated the Vanderbilt-Ingram Cancer Center as a Comprehensive Cancer Center, the highest such ranking awarded by the federal government. The designation does not directly bring more money to the VICC. However, the prestige that comprehensive designation brings to the center is expected to help make it even more competitive in recruiting new talent and attracting new funding from both government and private sources.

**VUMC Develops Tool for Understanding Tumors**

Move over Kodak. Vanderbilt University Medical Center investigators have developed a new way to take a picture—of the molecules in a slice of tissue, that is. The technique, called Imaging Mass Spectrometry, offers scientists a new tool for visualizing where proteins are located in cells and tissues. This information is important to understanding how proteins work and how they change in disease states. The Vanderbilt team applied the new technology, described in the April issue of *Nature Medicine*, to taking molecular photographs of normal and malignant brain tissue slices.

“One of our goals is to look at tumor tissues and attempt to find changes in expressed proteins that are the result of, or contribute to, tumor development,” says Richard Caprioli, director of the Mass Spectrometry Research Center. “We know from this and other work, for example, that the pattern of proteins expressed in the outer edge of a growing tumor is different from that of the interior, and that both of these are different from the normal tissue right next to the tumor.”

Caprioli hopes someday the technology can be used to assess tumor margins during surgery and to detect molecular changes in a biopsy sample before a tumor has started any significant development.

He is working with Vanderbilt-Ingram Cancer Center investigators to image proteins in prostate, colon and brain tumors and “determine what new molecular events are occurring,” he says.

**REN S PEAKS ABOUT VIOLENT CRIME**

Janet Reno, America’s first female attorney general, delivered the 12th annual Cecil Sims Lecture at the Vanderbilt Law School on April 9. Reno used her experiences as both a state attorney in Dade County, Fla., and as the nation’s highest prosecutor under President Bill Clinton to convey a critical message about violent crime in America. “We can approach violent crimes in a comprehensive way as a course in a university setting, or we can continue to do it piecemeal,” said Reno. Calling Vanderbilt the “most exciting” law school she has visited because of its potential to bridge medicine and law for the benefit of society, Reno pointed to the school’s cross-disciplinary coursework as a prototype for future legal inquiry. Attorneys, for example, may study emergency room admissions data to understand and combat patterns of violent behavior such as spousal abuse through curricula such as Vanderbilt’s.

**What Your E-mail Says About You**

If you think sending out error-free e-mail messages is impressive, you may want to think again. Research by David Owens, assistant professor at the Owen Graduate School of Management, suggests that people with high status and typing skills tend to send messages with emoticons, frowning and smiling faces formed by colons, semicolons, and parentheses. (Owens, who did not coin the word emoticons, says it comes from a combination of emotions and icons.)

“Sending out smiling or frowning faces can signal submission. A lower-status worker may send out an e-mail with the sentence ‘Hi! How are you? :-( ‘ using emoticons and exclamation points,” says Owens.

Although he cautions that his research is preliminary, Owens’s findings may have an impact on working relationships down the road. “If people are aware of the social implications of these mail they send, they can make a choice about how to present themselves.”

**SOARING TO NEW HEIGHTS**

If you haven’t driven by campus in the past year, hold onto your steering wheel as you cruise down the stretch of 21st Avenue South that curves past Vanderbilt Law School. The plain brown wrapper of a building that formerly housed the law school has been transformed beyond recognition. A $23 million renovation is in its final months and targeted for completion in January 2002. Law students, faculty, and staff already are enjoying more spacious classrooms in two new wings, and renovation of the building’s central core is also complete. The final phase, renovation of faculty offices, will complete the project.

**JONATHAN RODGERS**

First, a Vanderbilt faculty member since 1986, is on leave from his position as assistant professor of cardiac and thoracic surgery. To earn designation as a Comprehensive Cancer Center, a facility must go through a competitive review process and meet rigorous standards, specifically in three areas: innovative and comprehensive research into the causes, development, prevention, and treatment of cancer; leadership in the development and study of new therapies; and commitment to the community through programs for cancer information, education, and outreach.

Relatively few Comprehensive Cancer Centers are found in the southeast. Six states that border Tennessee do not have Comprehensive Cancer Centers. The designation does not directly bring more money to the VICC. However, the prestige that comprehensive designation brings to the center is expected to help make it even more competitive in recruiting new talent and attracting new funding from both government and private sources.

**In his first Commencement address as head of the University, Chancellor Gordon Gee urges students to see 2,699 students receive degrees from Vanderbilt’s 10 schools on May 11. Sixteen of these students received two degrees.**

**Amy Palma, who received a B.S. degree from the College of Arts and Science, celebrates while the names of her 1,301 undergraduate classmates are called. For the fourth consecutive year, Commencement exercises were cybercast over the Internet, with about 1,100 viewers tuning in to the Web cast.**
The Commodore’s Got a Brand New Bag

It had to happen, given the combined power of the Internet and the $13 billion snack chip industry.

Cornelius Vanderbilt, that rags-to-riches 19th-century railroad magnate who spawned a family dynasty and shared a cost million to found a southern university, now is being credited widely as the man indirectly responsible for the potato chip’s invention.

The story, promulgated by Frito-Lay Inc. and fueled by the Idaho Potato Growers, among others, goes like this: In 1853, Cornelius Vanderbilt, while dining at Moon’s Lake House in Saratoga Springs, New York, ordered fried potatoes with his meal and found them too thick for his taste. Back to the kitchen they went.

The cook, George Crum, was—depending on which source you believe—promptly fired or the subject of a prank. Crum then sliced a new batch of potatoes paper-thin, fry them to a crisp, and salt them heavily. The result reportedly was such a hit with the Commodore that they went back: When has truth ever stood in the way of a good marketing tool?

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Physicists Develop New Technique to Find Hidden Corrosion

Corrosion can run, but now it can’t hide. Vanderbilt physicists have developed a new remote-sensing technique that can detect corrosion hidden deep within metal joints where conventional detection methods fail. According to a 1996 study, corrosion in roads, bridges, passenger and freight railway systems, pipelines, harbors, airports, water treatment plants, solid waste disposal facilities—virtually every part of our nation’s complex infrastructure—may be costing the country as much as $300 billion per year.

About a third of this deterioration can be prevented using conventional electrochemical methods, the study estimates. But corrosion also occurs on hidden surfaces where it is extremely difficult to detect. In a paper presented at the March meeting of the American Physical Society, John Wilks, A.B. Learned Professor of Living of the American Physical Society, and research associate Grant Skennerton reported that they have successfully used a super-sensitive piece of equipment known as a SQUID (Superconducting Quantum Interference Device) to detect subtle changes in magnetic field strength that are generated when small amounts of metal corrode.

“SQUID’s are extremely sensitive magneticometers,” says Wilks. “Relative to their sensitivity, a tremendous amount of magnetic flux is generated when a small amount of metal corrodes. Moreover, they are so high-tech devices that do not need to make physical contact with a metal specimen to detect the presence of corrosion, and they can measure corrosion hidden from view.”

University’s Impact on Mid-State Economy Nearly $3 Billion

Vanderbilt’s impact on the local economy totaled at least $2.8 billion last year. The University’s economic activity in Middle Tennessee in fiscal year 2000 was up from $2.4 billion in FY 99—a seventeen percent increase.

The University financial analyst who conducted the study used standard methods for assessing economic impact, taking into account direct, indirect, induced, and fringe benefits, vendor payments, capital construction and equipment, taxes and fees to state and local government, as well as the spending of Vanderbilt employees, faculty, students, patients, and visitors injected into the economy.

“Universities and medical centers are tremendous economic engines, but the numbers only tell part of the story,” explains Chancellor Gordon Gee. “By creating new ideas, educating future generations, and providing the most sophisticated health care, Vanderbilt’s priority is to improve the quality of life for the people of the Nashville area. We are recapturing this community and have as much at stake in its continued economic vitality as anyone.”

The largest private employer in Middle Tennessee and the second largest in the state, Vanderbilt employs about 15,000 individuals.

Rare Books on Exhibit

Throughout the spring semester, the Heed Library and the First Amendment Center cosponsored an exhibit of rare and significant historic books and manuscripts loaned to the library by the Remnant Trust, a foundation based in Hagerstown, Indiana.

Known as the Wisdom of the Ages Athenaeum, the collection consists of more than 400 first and early edition texts on “liberty, fraternity, and equality,” according to Trust founder Brian Bex. Items loaned to Vanderbilt included the Magna Carta, the first public printing of the Emancipation Proclamation in the New York Times (1862), the first edition of Milton’s Paradise Lost (1664), one of only three known copies of St. Thomas Aquinas’ Summa Theologica (1475), and 41 other works of literary, political, social, and religious interest.

“We could hardly believe it was true when we first heard about this exhibit,” says Paul Gherman, University librarian. “Librarians tend to be somewhat skeptical between wanting to preserve historic materials in their most pristine condition and allowing people to have access to them. The two rarely go together.”

This edition of the Magna Carta was printed in 1342.

The mission of the Remnant Trust is to make great works that advance the ideas of freedom and democracy accessible. “We want to make the original texts available so people can form their own opinions. The great ideas belong to everybody; they should be shared,” says Bex.

Students in history and political science classes at Vanderbilt used the books during the spring semester, as did students from Nashville’s Overton High School and University School.

Stats on Wheels 2000–2001 Academic Year

<table>
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Sources: Vanderbilt Traffic & Parking and Police & Security

E N G I N E E R I N G P R O F GETS A N A T I O N A L N O D

Bridget Rogers, assistant professor of chemical engineering, has won the prestigious Career Award from the National Science Foundation (NSF) for her research on alternative materials that could be used to make faster and more economical computer components. Considered NSF’s most significant honor for junior faculty members, the national award will fund five years of her research. Rogers and her associates are studying alloys that could replace the silicon dioxide used in transistors and other microelectronic devices that are the heart of computers. As transistors continue to shrink, the silicon dioxide layer also must be reduced in thickness, ultimately becoming too thin to control the transistor’s electrical current. Rogers and her team are studying materials strong enough at the molecular level to replace silicon dioxide. Left, Rogers works with Virginia Wahlig, a senior in the School of Engineering.
Latino Sorority, Fraternity Diversity Lends Strength to Vanderbilt's Greek System

Vanderbilt's Greek community was broadened last spring with the addition of its first Latino sorority and fraternity. The new Latino sorority and fraternity, Delta Theta Phi, a Latino fraternity that had been founded last spring with the addition of its expansion committee and Vanderbilt officials to a launch a campus chapter earlier in the year. Administrators also approved Lambda Theta Phi, a Latina fraternity that had already begun to organize. Both will diversify the University's Greek system while offering new options for Undergraduate, say student and school representatives.

"We have organizations on campus that are for Latino students, but we wanted a Greek organization, just to be reflected within that community," says Gloria Rosario, a junior from New York. The 208 Hispanic students at Vanderbilt last year comprised nearly 3.5 percent of the undergraduate population.

The new Latino fraternity, along with the campus's three black sororities and three black fraternities, mirror national trends among Greek systems to diversity.

Nursing Shortage Hurts Patients

A School of Nursing researcher has found a direct correlation between nurse staffing and patient health and survival, according to a study released by the U.S. Department of Health and Human Services.

The findings from the report, the most comprehensive to date on the topic, show that low nurse staffing directly impairs patient outcomes, ranging from urinary tract infections to patient bleeding.

"This is the largest and most sophisticated study to date concerning the relationship between hospital nurse staffing and patient outcomes," says the study's co-director, Peter Buerhaus, senior associate dean for research and Valerie Potter Distinguished Professor of Nursing.

"We have provided evidence that nursing staff matter in what happens to patients. Perhaps the results will enable us to move health policy forward and make it possible to provide hospitals and nurses with the kind of resources that will enable them to enrich staffing to the point where adverse patient outcomes can be reduced," he adds.

Utilizing 1997 data from more than 5 million patient discharges from 799 hospitals in 11 states, researchers found there were consistent relationships between nurse staffing variables and five patient outcomes—urinary tract infections, pneumonia, shock, upper gastrointestinal bleeding, and length of stay in medical and major surgery patients.

The University of Michigan showed significant staffing was associated with a 2 to 12 percent reduction in certain adverse outcomes and higher staffing at all levels of nursing was associated with a 2 to 25 percent reduction in adverse outcomes.

Last year, Buerhaus published a study in the Journal of the American Medical Association projecting that the period of registered nurses' (R.N.) shortages by the year 2020. In comments about the impending shortage, he said that the consequences of the lack of staffing put patient care at risk.

"Improving patient safety is a critical issue, and our study puts the impact of staffing mix and levels before the nursing profession, hospital industry, insurers, and policy makers," he says. "It now remains to be seen what they will do.

Sharp Increase in Applicants Lands Vanderbilt on 'Hot List'

A report released recently by Newsweek/Kaplan list Vanderbilt atop eight other colleges and universities deemed to be "America's Hottest Schools." What makes such schools as Vanderbilt, Vassar, Tulane and Emory hot? While the primary consideration was the number of students competing for admission, weight was given to student satisfaction.

"All [schools on the list] boast rises in applications that sharply outstrip the national average," according to the article, which appeared in a special newsstand issue of the Newsweek/Kaplan publication How to Get Into College. Citing Nashville, the article said "it helps to be in or close to a vibrant city."

"Competition to attend Vanderbilt has increased dramatically in recent years, with the number of undergraduate applications increasing by 14.7 percent from 1999 to 2001, said Bill Shain, dean of undergraduate admissions.

"The past five years were the highest in terms of freshman applications in the University's history," said Shain. "This year is absolutely a record.

The other schools on the list, in order of appearance in the article, are Hampshire College (Massachusetts), Wesleyan University (Connecticut), University of Michigan at Ann Arbor, Oberlin College (Ohio), Vassar College (New York), Franklin & Marshall College (Pennsylvania). Emory University (Georgia) and Tulane University (Louisiana).

["Vanderbilt's offerings are vast and surprising," wrote the authors of article. "It boasts one of the most advanced programs in the nation for studying online commerce."]

The report cited a current student who said she chose Vanderbilt due to the University of Pennsylvania and Rice because of the blend of rigorous academic programs and "Southern gentleman."

"Vanderbilt's popularity has been increasing rapidly for the past few years, and the record number of applications proves it," said Chancellor Gordon Gee. "Our reputation continues to catch up with the reality that Vanderbilt is a hot school thanks to our excellent faculty, students and staff."

The list is intended to help prospective students "look beyond the Ivy League" due to a hard mentality that oftentimes leads persons to choose a school because of a name, rather than other important factors such as specific programs.

University, School of Engineering Move Up in Latest U.S. News Rankings

Vanderbilt and the School of Engineering each advanced one spot in the latest ranking by U.S. News & World Report.

The University is listed as 21st in the magazine's ranking, with the net cost of attendance for a student who receives the average financial aid.

In determining best values, the magazine's editors said they used a formula that relates a school's academic quality, as indicated in its ranking, with the net cost of attendance for a student who receives the average amount of financial aid.

The full rankings and additional information will be in the next edition of Vanderbilt's magazine, with the net cost of attendance for a student who receives the average amount of financial aid.

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"Rankings like this represent just one way to assess the quality of the University," said Chancellor Gordon Gee. "By that standard, Vanderbilt is doing very well. But there is more to the student experience beyond the classroom." The full rankings and additional information will be in the next edition of Vanderbilt's magazine, with the net cost of attendance for a student who receives the average amount of financial aid.

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President Bush Nominates Alumnus as Ambassador to Latvia

President Bush recently nominated a Vanderbilt alumnus to serve as ambassador extra-annually and plenipotentiary of the United States to the Republic of Latvia. Nominee Brian E. Carlson earned a bachelor of arts in history from the University in 1969.

According to information provided by the White House, Carlson is a career member of the Senior Foreign Service, and has served as senior adviser to the undersecretary for public diplomacy and public affairs since 2000. Previously, he was director of public diplomacy in the State Department's Bureau of European Affairs and held the post of public affairs officer in Spain from 1994 to 1998. From 1991 to 1993, he was director of European Affairs at the United States Information Agency. His earlier overseas assignments include service as deputy public affairs officer in London, public affairs officer in Oslo, Norway, and Sofia, Bulgaria, and assistant information officer in Belgrade and Caracas, Venezuela.

Carlson, a Baltic state, is located in northeastern Europe bordering Estonia, Lithuania, Latvia, Poland, and Russia. As with all upper-level presidential appointments, Carlson’s nomination must be confirmed by the U.S. Senate. The date for the confirmation vote has not been determined. If confirmed, Carlson will join W. Robert Pearson as a Vanderbilt graduate currently serving as U.S. ambassador. Pearson graduated from the College of Arts and Science in 1965 and was confirmed as U.S. ambassador to Turkey in 2000.

Vanderbilt Hillel Breaks Ground for New Jewish Center

Vanderbilt Hillel held a groundbreaking ceremony in April for the new Schulman Center for Jewish Life. The 10,000-square-foot building is being constructed at the corner of Vanderbilt Place and 28th Avenue South, next to Branscomb Quadrangle and across the street from Memorial Gym. For many years, the site was home to the Zeta Beta Tau house, the historically Jewish fraternity.

Among guests on hand for the groundbreaking was Ben Schulman, BE’88, who contributed $1 million to the new center named in his honor. Vanderbilt Hillel, a program of the Jewish Federation of Nashville, has begun a campaign in partnership with the University to raise funds for the new center. The drive includes goals of $2.2 million for construction and $2.5 million in endowment to meet maintenance and programming needs. Approximately 4 percent of Vanderbilt’s undergraduates are Jewish.

“Being Jewish is central to who I am,” explains junior Ilene Wolf, vice president of Vanderbilt Hillel. “The Schulman Center will provide our community not only with a much needed home, but also a place to explore what it means to be Jewish.”

The new facility will feature a sanctuary adaptable for educational and social events, a dining area, student lounge, kosher kitchen, student work center, library/reading room, seminar and conference rooms, and space for a rabbi’s study and executive offices. Completion is slated for August 2002.

The Class of 2005 is smaller than in past years, which, according to University officials, is a healthy sign of a University able to be more selective in the admission process. “This is, by far, the most competitive year in Vanderbilt’s history,” said William Shain, dean of undergraduate admissions. This year, 1,557 freshmen enrolled in the University. According to the “10-Day Report” issued Sept. 11 by the University Registrar’s Office, 86 fewer students enrolled than in 2000. The report details the University’s official enrollment figures for the academic year.

Fewer freshmen are on campus this fall due to an 8.4 percent decrease in the rate of admissions, which translates to an all-time low admission rate of 46.4 percent. The decrease was enacted by the Admissions Office to hit the desired planned class size. The previous two entering classes exceeded the University’s targeted size. The past five years have seen the largest numbers of applicants in Vanderbilt’s history, with this year’s 9,738 applications breaking previous records. This number is a 9.4 percent increase over last year. Even with the decrease in admissions, the all-important enrollment yield — the percentage of those applicants who were accepted and actually enrolled — soared to a record level of 46.4 percent, the highest since 1991.

Last year’s enrollment yield rate was 33.6 percent, according to the Office of Admissions. “This is when admissions work is really exciting,” said Shannon Henry, director of undergraduate admissions. “The Class of 2005 is smaller than in past years, which, according to University officials, is a healthy sign of a University able to be more selective in the admission process. This is, by far, the most competitive year in Vanderbilt’s history,” said William Shain, dean of undergraduate admissions.

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The entering class is also topping the charts based on testing, academic performance and leadership qualities. The Class of 2005 boasts a number of top students: 123 class presidents, 127 first- or second-ranked students and 514 athletic team captains, as well as other appealing characteristics, according to a July 2001 enrollment profile.

The Class of 2005 has the largest number of minorities — regardless of citizenship — in its history. This year, 289 of those enrolled classified themselves as minority. Ninety-two of the 1,557 entering freshmen did not specify race, according to University Registrar Gary Gibson.

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The freshman class came from 46 states and the District of Columbia, with Tennessee as the top state followed by Texas, Georgia, Florida, Illinois and a tie between Ohio and Alabama. The class of 2005 represents 44 countries, according to the July 2001 enrollment profile.

The University as a whole boasts robust numbers. The total number of students enrolled in the University has increased from 10,194 in 2000 to 10,496 this year. Retention rates for each of the entering classes over the past three years are higher than the past. The retention rate for the class of 2004 is at a record 94.34 percent.
Following the tragic events of September 11, many alumni have contacted the University asking for information about alumni caught in the attacks. If you have an experience you’d be willing to share with your fellow alumni, please contact Vanderbilt Magazine’s editor, Ken Schexnayder at (615) 322-3988 or ken.schexnayder@vanderbilt.edu.

In the days after the attacks, the Sarratt Student Center and the Student Recreation Center remained open 24 hours a day offering counseling, toll-free long-distance service to reach family (right), and a place to gather. Meals from a canceled conference at the Kennedy Center were delivered to feed those who waited hours for the chance to donate blood. Alumni Lawn became a place for gathering and memorials such as the “Moment of Silence” service, at which Navy ROTC student Andrea Alvord held the American flag (above). Prayer flags were hung from a tree outside Sarratt to honor victims of the attacks and offer thoughts and express feelings about the future (top photo).

Terrorist Attacks Pull Vanderbilt Campus Together

Like many communities across the country, Vanderbilt University reached out to its regional and global neighbors, while turning its focus inward to support students, faculty, and staff affected by the September 11 terrorist attacks in Washington, New York, and Pennsylvania. While the magnitude of the tragedy’s impact on Vanderbilt remains uncertain, the images and words that follow offer some insight into the community’s dedication to preserving its sense of morality and helping others to heal.

Students, faculty, and staff gathered at the Sarratt Student Center and Benton Chapel for discussions and memorial services, including a gathering with Chancellor Gordon Gee (above). Eleni Binioris joined nearly thirty students who took advantage of a bus chartered by the university to take them home to New York to be with family and return them to campus for classes (top photo).
**Sports**

**Coach's Approach to Winning Serves Up Historic Title Run for Women's Tennis**

This year, women's tennis coach Geoff Macdonald led a Vanderbilt athletic team further than any other coach in the school's 128-year history. On May 23, his team competed for the national championship—a Vanderbilt first—against Stanford University, the New York Yankees of women's collegiate tennis. Vanderbilt lost the match, but the team returned to campus as heroes.

“I don’t think the players understood how historic this was for our school, and that we were a part of something meaningful,” Macdonald says. His team advanced very far, very quickly. But this accomplishment is not isolated on the radar of athletic achievements, he says. It’s the result of hard work and the convergence of talent Macdonald and his staff successfully recruited to the University.

In his first job as head coach, Macdonald took the Southeastern Conference’s Memphis to the NCAA championship as the No. 13 seed in only three short years. Later at Duke, he guided the Blue Devils to the Final Four. At each of his three head coaching positions, he was voted conference coach of the year, including at Vanderbilt in 2000. At Vanderbilt, his team has finished no lower than No. 15 nationally in each of the past five years and has ranked in the top three of the SEC in four of the past five years.

During his career, Macdonald has developed nine All-American players, including Julie Ditty, Vanderbilt’s first. He also has nurtured future physicians, attorneys, and teachers who could hold their own on the tennis court in the competitive SEC.

“To recruit student-athletes who can thrive in these classrooms and also compete at this level is very much a challenge,” he says. “I simply won’t sign a player if I don’t think she understands the academics involved at Vanderbilt.”

Macdonald’s focus on tennis is by accident—literally. As a seventh-grader in Naples, Fla., he missed out on little league baseball tryouts when his mother was injured in a car accident. Instead of playing baseball that summer, he took the tennis lessons she had bought for herself.

“I hit the first two balls over the fence, but I totally fell in love with the difficulty of it,” Macdonald recalls. “I was drawn to that facet in tennis, no one could claim you for.”

That’s the approach he takes in training his student-athletes.

“My whole attitude on coaching is one of ‘This is really hard, yet you can do it. Not, ‘Hey, how could you miss that? That was so easy.’ One of the biggest things we work on is respecting every shot and not falling prey to overlooking the so-called easy shots. Winning takes moment-to-moment focus,” he adds. When [junior] Kate Burson beat an All-American, she wasn’t thinking of winning. She was thinking of playing each point and putting the points together in the right way.”

**Leadership Program Aimed at Improving Football Team**

A critique of Vanderbilt’s 3-8 football record for the 2000 season led Coach Woody Widenhofer to establish a leadership program aimed at improving team performance, discipline, and camaraderie. A leadership committee of players representing each class serves as a liaison between the team and coaching staff. The group gathers weekly for a leadership seminar.

“Vanderbilt student-athletes can attend classes in leadership development,” Widenhofer observes. “And many companies send their staff members to seminars. Yet in the world of sports, there is often an attitude of ‘you are or aren’t a leader’.

“I’ve always thought true leaders were born,” he admits; “but I also think a lot of people have varying levels of leadership qualities that can be developed. Even great leaders must hone their skills. As coaches, the most important thing we can do is help our players become better leaders.”

Because of the program, Widenhofer delayed the annual election of team captains. “The greatest honor you can receive as a Vanderbilt football player is to be elected captain by your teammates,” he says. “I want the team to think hard about who their captains should be. We expect more leadership from our captains, so this election will be important to our success.”

Widenhofer also created the Commodore Chain Gang. “Every single player has a role and every player is a link,” he explains. “Like a chain, we’re only going to be as strong as our weakest link. To remind us of this, we’re going to issue chain links to players doing things the right way as a constant reminder of our chain gang.”

**Women Advance to Elite Eight Round of NCAA Tournament**

The women’s basketball team reached the Elite Eight round of the NCAA tournament in March, losing to eventual national champion Notre Dame, 72-64. The Commodores finished the season with a 24-10 record and placed second in the SEC tournament, including a win over Tennessee.

Several Vanderbilt players earned national honors. Sophomore center Charlotte Anderson was named to the NCAA All-Tournament team, Associated Press All-SEC first team, Coaches All-SEC first team, SEC Tournament Most Valuable Player, and Women’s Basketball Journal All-American. Junior forward Zuzi Klimezova was named to the NCAA All-Tournament team, Coaches All-SEC second team, Associated Press All-SEC second team, SEC Academic Honor roll, CoSIDA/Verizon District IV All-Academic Team, and All-Academic third team. Sophomore guard Ashley McElhiney was named to the SEC All-Tournament team.

Other honors included Academic All-U.S. Academic Honor Roll members Jillian Dunker, Jackie Munch, and Candice Storey.

**Women’s United Soccer Association’s Supplemental Draft**

Vanderbilt has assumed ownership of the Legends Club of Tennessee Franklin. The 36-hole golf course will provide a home course for the Vanderbilt men’s and women’s golf teams. The transaction was completed as part of the multi-million dollar improvement fund from an anonymous donor.

May graduate and soccer defender Lauren White was selected by the Atlanta Heat in the fourth round of the Women’s United Soccer Association’s Supplemental Draft.

**Round of NCAA Tournament**

Vanderbilt has many archival materials, entrance and corridors featuring exhibit sites. By fall. New features include a practice gym, basketball will be unveiled as part of the $24 million renovation to Memorial Gym. “We have tremendous tradition with our basketball programs,” says Todd Turner, athletics director, “and we want people to know we are proud of it. We want to bring our legends back to life with a display that will be both enlightening and entertaining.”

The gym renovation will be complete by fall. New features include a practice gym, coaches’ offices, and an enlarged eastside entrance and corridors featuring exhibit sites. While Vanderbilt has many archival materials, the University is putting out a call to fans who may have significant memorabilia.

“Over the years, fans collect rare items,” says Rod Williamson, associate athletic director. “Some may have the game jersey of an All-American or an old radio recording, someone else might have a one-of-a-kind photograph or a rare game program. Experts tell us that as our display gains momentum, people will surprise us with neat things they would like to share.”

Williamson asks that fans who have access to either the men’s or women’s program contact him by phone at 615/322-4051, by e-mail at rod.williamson@vanderbilt.edu, or by mail at P.O. Box 120158, Nashville, Tenn., 37212.

**YOUTH SOCCER SELECT**

Kentucky, Hall has been a University trustee since 1987, serving as chairman of the board from November 1995 through April 1999.

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**New Memorial Gym Exhibits Celebrate the Past**

Historical exhibits celebrating the people and traditions that have shaped Vanderbilt’s history will be unveiled as part of the $24 million renovation to Memorial Gym.

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I have wondered about these people, now that I am one of them. I have watched them over the years entering the stadium in their yellow garb, but I have never detected much open excitement in their voices. They speak quietly and politely with each other as would befit attendance at a solemn or serious occasion. I have seen aging, wiry men who still carry themselves as men who might have been athletes fifty years ago, when they were young and bright of eye and Vanderbilt was a winner. And I have seen very old people staring raptly ahead toward the stadium, being helped along by younger friends or family members who know how much this means to them. They are a touching group.

What distinguishes them is an ageless suffusion of light in their eyes. They seem pilgrims who care nothing about the cost or the pain of their journey. They are not here because they expect Vanderbilt to win, but because they believe perhaps a miracle will happen—something beyond expectation, but not beyond their tireless imaginations; something unseen by anyone before; something these people want to be present to witness.

They have seen it before, in glimpses— in ’69 against Alabama and in ’82 against Tennessee—and in the minds of these pilgrims those wins might have been just last week, so vivid and immediate are their memories. Even so, the wait for something larger and more permanent at Dudley Field has been long. Maintaining faith has been hard.

There is something magical about Vanderbilt football. How can a team compile a losing record every year for 18 straight years? Robert Service might call it a *spread misere*, in the desperate hands of Dangerous Dan McGrew. Yeats might suggest that some portent of the millennium was slouching toward Dudley Field, as yet unborn and unsuspected: could an entire generation of losing augur a shift within the planetary arcs of the SEC—a split at the center of the gyre? The prospect is compelling because of the price which has been paid. And so we wait, in quietly wild surmise.

I have tried to maintain that perspective through the years, but I can’t; for I love Vanderbilt, and I loved those boys who run out week after week to collide with a fate that only young men could presume to change. The rest of us know that we will not change Vanderbilt, and we glance at each other as the final quarter wanes, wondering at the power which defeats us but keeps us clinging to our seats. “That which we are, we are,” Tennyson said, but at some visceral level we also know that somehow, obdurately, intractably, and probably foolishly, we are truly “one equal temper of heroic hearts” and lifelong fans of Vanderbilt.

As I watched the yellow-clad spectators hanging on in small clusters against the growing gray of autumn and the emptying stands, I thought of Shakespeare’s Sonnet 73:

That time of year thou mayst in me behold
When yellow leaves, or none, or few, do hang
Upon those boughs which shake against the cold,
Bare ruined choirs, where late the sweet birds sang ...

and I caught fire at the beauty of these people and their lives. You see them every fall at Vanderbilt: they are the natural cycling of our seasons.

Wayne Christeson took a B.A. in Philosophy from Vanderbilt in 1970, with honors. He is a retired attorney and lives with his wife Anne on a farm in Leiper’s Fork, Tennessee, where they raise horses. Anne Christeson graduated as Founder’s Medalist from Vanderbilt in 1971 and currently teaches Latin at Montgomery Bell Academy in Nashville.
As species go, Homo sapiens were not the most promising creatures ever to come down the evolutionary pike. We lacked the cheetah’s speed, the boar’s compact strength, the owl’s acute sense of hearing. When the going got tough, Homo sapiens could not fly down to Rio for the winter or burrow into the mud and dream of better days. Human reproduction, moreover, was slow and inefficient. When a healthy infant did arrive on the scene, it took years to reach self-sufficiency—months just to support its own impossibly large head.

Ah, but that head.

It housed our secret weapon—a huge brain with the capacity for language and logic, poetry and physics. Without it, we would surely have followed the 98 percent of species on earth that have gone the way of the dinosaur and the dodo bird.

Our brain has been our ticket to survival, but as much as we have become masters of our world, fathoming how the earth was born and how stars die, we still know amazingly little of the three-pound organ that makes everything else possible.

“We have a good understanding of the kidneys and liver, of heart organization, and as a result we have good methods of treatment and repair for those organs,” says Jon Kaas, Centennial Professor of Psychology, whose research has revolutionized thinking about brain circuitry (see opposite page). “But the brain is so much more complicated that our understanding of it is now at perhaps the level that Aristotle had of the heart.”

“We still don’t understand why we get Alzheimer’s or schizophrenia or psychotic depression,” says Elaine Sanders-Bush, professor of pharmacology, professor of psychiatry, investigator and senior fellow at the John F. Kennedy Center, and director of the Vanderbilt Brain Institute.

All of that is rapidly changing. “The explosion in technology has given us unprecedented opportunities to understand how the human brain works,” Kaas says. “Molecular neuroscience is giving us tools to understand organization of brain systems. Functional magnetic resonance imaging, miniaturization of recording efforts, and computer technology are allowing us to make tremendous progress.

“Sixty percent of our genes are expressed only in the brain, which means the greatest amount of new knowledge will be related to the brain,” says Lee Limbird, associate vice chancellor for health affairs for research and professor of pharmacology at Vanderbilt University Medical Center.

“At least two-thirds of the money granted by the National Institutes of Health relates to brain research,” adds Limbird, who led a group of Vanderbilt planners that first proposed formation of a brain institute.

Mental disorders, according to the U.S. Surgeon General’s Report on Mental Health issued in 1999, collectively account for more of the overall burden of disease than do all forms of cancer. In the next 10 years, Vanderbilt will invest $250 million to be at the leading edge of neuroscience research and clinical care. “By un-

Jon Kaas, Centennial Professor of Psychology, professor of cell biology, and Kennedy Center investigator, has studied the brain for some 35 years, most of them at Vanderbilt. Kaas and his colleagues have found that when large parts of sensory systems are deprived of their normal input, they can grow new connections to restore activity—even in mature brains. Kaas’s insights have revolutionized thinking about brain plasticity and helped lead the way for his induction last year into the National Academy of Sciences, one of the highest honors bestowed on an American scientist. Not one to rest on his laurels, Kaas says, “Plasticity is only part of what interests me. I’m also interested in trying to determine normal brain organization. We don’t know enough about brain systems, how they’re organized, and how they function.”

VANDERBILT NEUROSCIENTISTS COLLABORATE TO SOLVE THE MYSTERIES OF THE MIND

by Gay Nelle Doll
Ever wondered how a fruit fly acts under the influence of hallucinogenic drugs? Elaine Sanders-Bush, professor of pharmacology and director of the Vanderbilt Brain Institute, has. Sanders-Bush has spent years studying serotonin and serotonin receptors in the action of hallucinogenic drugs. “Serotonin is an ancient neurotransmitter that’s been carried down through evolution. It has been linked to so many different brain functions and behaviors that it’s astounding,” she says. “Hallucinogenic drugs are fascinating because they produce in humans altered perceptions. We’re working to understand how we humans conceive of ourselves and who we are.” Sanders-Bush also directs the three-year-old neuroscience Ph.D. program. Shown here in her lab, she oversees the work of graduate students such as Efrain Garcia, a second-year neuroscience Ph.D. student.

Which is precisely the aim of the Vanderbilt Brain Institute. Formed two years ago, the Vanderbilt Brain Institute is a means of promoting discovery efforts of neuroscientists, training of undergraduate, graduate, medical, and post-doctoral students, and coordination of public education and outreach in brain sciences. It brings together researchers working in such diverse areas as neuroscience, learning and memory, behavioral and cognitive science, neurogenetics (genetic basis of nerve tissue), neural development, sensory sciences, bioengineering, and clinical neuroscience related to neurological and mental disorders.

“Vanderbilt needed some kind of organizing structure for neuroscience because we’re spread out in so many parts of the University,” Sanders-Bush explains. “The Vanderbilt Brain Institute is a virtual structure for representing neuroscience to the outside world and getting national recognition for our strengths in individual areas. If someone is interested in developmental disabilities, understanding the brain better, we’ll be able to cure or treat stress-related disease like hypertension and cardiovascular problems,” says Solve Park, associate professor of psychology in the College of Arts and Science.

Concepts such as awareness, intention, desire, and emotion that were once the exclusive domain of philosophers and psychologists are now the focus of experiments in brain science at Vanderbilt, which enjoys a long and distinguished history in neuroscience.

“During the next decade we anticipate major changes in the way people are treated for learning disabilities,” says Kaas. “We will have access to a host of new behavioral methods, including computer-driven programs that will be incorporated with neuropharmacological treatments. The amount of new information is so vast that just keeping up with new procedures and new information is a huge challenge. That’s why collaboration is essential. None of us can be an expert in everything, but we can share our knowledge.”

As an example, we can put them in contact with the right person at the Kennedy Center.”

“It’s rare for a university to have such breadth of expertise on one campus,” says Limbird. “Vanderbilt offers students training ranging from the very basic molecular level to the study of human behavior.”

Researchers in the College of Arts and Science, Peabody College, the School of Medicine, School of Engineering, and the Kennedy Center are working together to understand how brain cells, circuits, and systems change during development, through learning, and in response to injury or illness.

“Neuroscience is by nature interdisciplinary,” observes Jeffrey Schall, professor of psychology and director of the Vanderbilt Vision Research Center and the new Center for Integrative and Cognitive Neuroscience. “When I was recruited to Vanderbilt, Jon Kaas invited me to his house and said, ‘We want the kind of colleagues who make us look forward to going to work.’ The investigators on this campus are each other, which is rare thing.”

Schall directs the Vanderbilt Vision Research Center, which draws on expertise in low vision rehabilitation at Peabody, sophisticated vision testing and functional brain imaging in Arts and Science, computational procedures and devices developed in the School of Engineering, and clinical populations available through the School of Medicine. Schall also directs the Center for Cognitive and Integrative Neuroscience (CICN), formed last year to increase the impact and visibility of neuroscience and related behavioral sciences at Vanderbilt. In this capacity he has been instrumental in helping recruit a number of new faculty to Vanderbilt, including David Noelle, who joins the department of electrical engineering and computer science in the School of Engineering and Susan Hespos, who joins the department of psychology and human development at Peabody this fall; and Gordon Logan, Centennial Professor of Psychology, who came to Vanderbilt last year.

Logan’s studies of automaticity (acting spontaneously or unconsciously), impulsivity (acting uncontrollably), and how we control our actions are particularly important in understanding schizophrenia and attention disorders.

Bridging the gap between engineering and medicine, Bob Galloway has developed techniques that help surgeons navigate the intricate terrain of the brain. Galloway, professor of biomedical engineering and neurosurgery, and director of the Center for Technology-Guided Therapy, has pioneered development of image-guided software and instruments that facilitate tracking of a surgeon’s position during operations.

The Vanderbilt team of surgeons, radiologists, biomedical engineers, electrical engineers, computer scientists, and radiation oncologists with whom Galloway works is a unique assemblage. “Only one or two other scientists, and radiation oncologists with whom Galloway works is a unique assemblage. “Only one or two other places in the world can approximate what we have here,” he says.

Variations on Galloway’s image-guided technology, which provides for three-dimensional mapping of the area targeted for surgery, are also used for spinal and liver surgery at Vanderbilt. Plans are under way to apply the technology to cochlear implants. Galloway also expects a version of his software to be commercially available in the near future.
deficit and hyperactivity disorder (ADHD), and he works in close collaboration with researchers at Vanderbilt’s John F. Kennedy Center.

“We’re all working on pieces of the same puzzle,” Logan says. “There’s a sense of synergy that comes from the fact that we’re all working toward a common purpose, and that really important work is going to be done at Vanderbilt in the next ten years. I think about some of my colleagues differently than I did a year ago as a result of being exposed to other researchers here.”

Researchers like Logan and Park, who also joined the Vanderbilt faculty last year, were lured here not only by opportunities to collaborate with other first-rate researchers, but also by the presence of a young, flourishing neuroscience undergraduate major and a fast-growing Ph.D. program.

Now only four years old, Vanderbilt’s undergraduate neuroscience major is attracting more students each year. More than 100 undergraduates are now majoring in neuroscience.

The decision to offer a neuroscience major grew out of student demand sparked by the leadership and enthusiastic teaching of Leslie Smith in the Department of Psychology. So many interested students were, in effect, creating their own neuroscience major by choosing the independent study course and learning everything psychology and neuroscience coursework they could get their hands on that administration responded by approving a neuroscience major.

The neuroscience majors have chosen a great time and place to study the brain. The new dean of the College of Arts and Science, Richard M. Cartey, is a respected authority in the closely aligned field of psychology. Powerful new ways of monitoring brain activity in humans as well as completion of mapping the human genome have accelerated the rate at which new knowledge of the brain is unfolding.

Researchers are uncovering essential clues to understanding disorders which have profoundly affected millions of lives and defied understanding—autism and Alzheimer’s disease, schizophrenia and addiction. Students are drawn to the neuroscience major by outstanding instructors and an inherently interesting subject,” says Terry Page, who directs the Neuroscience Studies Program. Page is professor of biological sciences, professor of biology and chair of the department.

“The program appeals to students because it’s interdisciplinary. They can take advantage of courses and faculty in several different departments and schools at Vanderbilt.”

One of the strongest components of the major is the chance to do research. Neuroscience majors spend time doing research in faculty laboratories, says Page. “We have about 35 faculty engaged in all aspects of neuroscience who are part of our research program for undergraduates. They come from engineering, the medical school, Peabody, and Arts and Science—everything from the molecular level to human behavior.”

Having the chance to see what it’s like to be a research subject is also a valuable experience. “Being a subject in a psychology experiment is an important educational experience,” says Logan, who taught a freshman psychology seminar last year. “Just describing how experiments work in the classroom does not convey the kind of insight that students gain by being subjects themselves. “Students often come into an introductory class with preconceived notions about psychology,” Logan adds. “They think that if you understand why their mother is like she is, or why someone cut them off in traffic. But academic psychology really isn’t about individual people at all. It’s about how the mind functions—how attention works, how choices are made, things like that.”

One challenge for Kaas is getting students focused on normal brain organization. “We don’t know enough about how brains are organized and how they function,” he says. Students like to rush on to the next question because normal brain organization is not as esoteric to talk about as some of the disorders, but our greatest lack of knowledge is in how brain systems are organized. “Neuroscience is a very challenging major with a heavy load of requirements and a tremendous amount of work. It’s not something a student would choose lightly,” adds Kaas. “It’s attracting bright, enthusiastic students who are thinking about careers in medicine or research.”

Vanderbilt’s transinstitutional graduate neuroscience program, just three years old, already has 27 Ph.D. students and offers five tracks to pursue. “We’re always happy to show them how we conduct it. It’s highly regulated by the government for the animals’ benefit, and people who tour our labs are usually surprised by the level of care and the animals receive.”

Since 1997 Vanderbilt has increased public outreach in understanding the brain, issues surrounding the brain, and the latest scientific findings by partnering with the Alliance for Brain Initiatives to present a highly successful Brain Awareness Program. Vanderbilt also sponsors programs for children and the Brain Bee, an international science competition in which high school students test their knowledge of neuroscience.

Throughout the year, Vanderbilt invites world-renowned experts in neuroscience and related disciplines to come to Nashville and share their discoveries.

New technology, innovative faculty, and bright students are all contributing to a bright outlook for neuroscience at Vanderbilt.

Vanderbilt’s four-year-old undergraduate neuroscience major now boasts more than 100 students. Neuroscience-related courses are increasingly popular with students from other disciplines as well. Here, psychology major Amanda Vuglaar, neuroscience major Jonie Kim, and science communications major Robyn Brown put in lab time with Jeffrey Schall, professor of psychology and director of the Vanderbilt Vision Research Center and the new Center for Integrative and Cognitive Neuroscience.

THE STROOP EFFECT

One of the most widely cited tasks in psychology had its origins during the 1930s at Peabody College in Nashville for more than 40 years, teaching an annual seminar on the philosophy of science, which describes experiments conducted a few years earlier at Peabody’spsi Psychology Laboratory, demonstrating how easily the brain can become confused. Here’s how it works: Name the colors of these words as quickly as you can—not what the words say, but the colors themselves.

BLUE

GREEN

YELLOW

As you probably noted, the words themselves have a strong influence over your ability to say the color. The Stroop effect shows that when you have two dimensions of stimuli and you’re paying attention to one, you can ignore the other.” says Gordon Logan, Centennial Professor of Psychology. “The psychology that intuitions over the Stroop effect. It is a well-defined reaction, Logan says. “But these days Stroop’s legacy looms large.”

“From November 1970 to November 2000, the period that Stroop was close to retirement, and he had written books on religion and God.” In fact when an academic group contacted Stroop with the intention of doing a brief biography, he was unimpressed. “It was just something from his past that he didn’t care about much,” Logan says.

“Three plus four equals twelve? Or three times four say, for example, are these problems true or false: automatically, and even if we’re trying to focus on much practice reading words that we process them even if we’re not even reading the words.”

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Logan says.

Not only does Logan know by the number of Stroop citations—when he joined the Vanderbilt faculty and moved to Nashville last year, Logan found out where Stroop had lived as a student and faculty and moved to Nashville last year, Logan said.

“His Ph.D. thesis was one of the most famous ever done anywhere,” says Logan, who has been lobbying for some kind of display at Peabody that would acknowledge Stroop’s contribution. “A friend of mine who did a biography of Stroop [Macleod, C.M. (1991), ] John Ridley Stroop: Creator of A Landmark Cognitive Task (Canadian Psychology) told me the paper didn’t get a lot of attention up until the 1960s, when people became interested in cognition and how reading worked. By that time Stroop was close to retirement, and he had written books on religion and God.” In fact when an academic group contacted Stroop with the intention of doing a brief biography, he was unimpressed. “It was just something from his past that he didn’t care about much,” Logan says.

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Still, a few persistent clouds loom on the horizon worry people like Ford Ebner, professor of psychology, professor of cell biology, and investigator and senior fellow at the John F. Kennedy Center. "There are concerns shared by many of my colleagues. “More than a hundred kids are now majoring in neuroscience, which for Vanderbilt is a pretty big major,” he says. “At least a dozen kids every semester want to work in my lab. One of the problems we will have to face eventually is that we don’t have enough faculty dedicated to meeting the demand. Right now a rather large undergraduate major is riding on the voluntary contributions and good will of several departments.”

"Most of us are in academia because we love teaching and mentoring students,” says Sanders-Bush, “But because neuroscience is interdisciplinary, we’re having to double dip with many of our faculty who must commit to teaching and mentoring students in the neuroscience program as well as in their home departments.”

For faculty like Robert Galloway Jr., professor of biomedical engineering and neurologic surgery and director of the Center for Technology-Exposed Therapies, the demands can be extraordinary. Galloway puts in an average of about 90 hours a week on the job (see page 19), knowing full well the graduate students he teaches leave Vanderbilt making far more lucrative salaries, and that he could triple or quadruple his income by accepting one of the offers from private biotechnology firms that frequently come his way.

Instead, he stays at Vanderbilt for the chance to see his surgical innovations reach broader applications—and, he says, something else “Every year they give me a new set of really bright students to play with, and that keeps me fired up. I wouldn’t be doing this if it wasn’t exciting.”

"Vanderbilt’s traditional insistence that each department be fiscally separate and responsible for its own activities breaks down when you try to cross barriers,” Ebner says. “It discourages investment in activity which brings power and glory to something that’s no longer part of you. Enthusiasm for an activity can get bogged down in the realities of fiscal responsibility.”

Vanderbilt’s administration, Ebner adds, seems to recognize the problem and be increasingly willing to find creative fiscal solutions that foster interdisciplinary work. In addition to money, another crucial component of neuroscience research is patients. “We need to be able to capitalize on our existing strengths in the basic sciences by translating that into the clinical area, which has not been as well developed at Vanderbilt,” says Sanders-Bush. The new Children’s Hospital currently under construction will have a clinical research unit that includes developmental disabilities, providing a greater patient base. Vanderbilt Psychiatric Hospital provides additional patients, but not as many as researchers would like.

"We’re studying the most interesting thing of all—ourselves,” says Sohee Park, associate professor of psychology in the College of Arts and Science. An expert in schizophrenia, Park joined the Vanderbilt faculty last year for the chance to collaborate with neuroscientists, cognitive psychologists, and clinical psychologists. “By understanding the brain better, we’ll be able to cure or treat stress-related disease like hypertension and cardiovascular problems.”

"Care of the mentally ill in Tennessee has deteriorated in the five years I’ve been here, and it’s getting worse all the time. It’s impossible to treat patients when their insurance will only pay for them to be hospitalized for four or five days. You can’t get patients into a stable living situation in that time. But if the hospital took on the burden without insurance reimbursement, it would go bankrupt. So my mental illness drift in and out of crack houses and face exploitation. Nashville is appalling in terms of its housing options for the mentally ill. But that’s what our society has said it’s willing to pay.”

The human toll aside, from a practical standpoint the small number of patients with schizophrenia that Vanderbilt can admit is not enough to meet research demands. “It’s an enormous struggle for me to find enough patients to participate in research studies, and I spend far too much of my time and energy trying to do so,” Meltzer adds.

That Meltzer still faces his work with enthusiasm and optimism says something about both the nature of his work, and the caliber of his colleagues. “If it wasn’t exciting I’d be retired by now,” he concedes. “But we have an extraordinary opportunity at Vanderbilt, and I want to keep going. I want to be there when some of the next set of answers arrives. It’s going to happen in the next ten years—it won’t be quite like the dramatic effects of finding..."
a cure for polio, but well have huge advances over what we can do now.”

Caesarlade, who is only a few years younger than M. etzer, echoes his sentiments. “I would love to be around long enough to see some of these things that we’ve worked so hard on come to fruition. It’s sad to think that I can’t go back and do more science— but I’m filling up my synapses. I need to do new things on my new hard drive!” Then she adds wistfully, “I wish I could return several more times, each time as a different type of scientist.”

When the answers come, it will be in no small measure due to the dedication of researchers like these, who love their subject so much they can’t get enough of it. Many are married to other researchers in related fields. Even their websites bubble with a geeky enthusiasm, complete with cartoons of laboratory rats on halucinogenic drugs and finny renditions of the William Tell Overture.

Park, Jugglini teaching and research with the responsibilities of a newborn son, enthusiastically agreed to be interviewed for this article, inviting the interviewer to her home a few blocks from campus.

“Neuroscientists study the most interesting thing of all—ourselves,” she says. “I look at my son and it’s fascinating to think about how fast his brain is growing and changing.”

Neuroscience, she says, is like the old American frontier—full of exciting discoveries. “People have gone to the moon, we have a space station—but we don’t really understand ourselves. In this field, we are fortunate that our work is so captivating. I’d like to have to live another 150 years to do everything I’d like to do.”

“I think back to where we were then. I started my career in the 1960s and it seems like the dark ages,” says Kaas. “Back then we had only a quiver with a couple of arrows. Now we have a whole arsenal of weapons that we can apply. But it’s still not well appreciated how much we have yet to learn about the brain.”

“People in neuroscience work hard because they’re intrigued by their work,” Kaas concludes. “If someone asked me what I’d like to do for my birthday, I’d tell them I’d like to go to work all day without being interrupted. That would be my reward.”

ON THE Cutting EDGE

New technologies have made procedures unheard of a few years ago almost routine and brought deeper understanding to perplexing conditions. Few medical interventions produce results as remarkable and immediate as the cessation of essential tremors or as empowering as interrupting the brain signals that start epileptic seizures. New technology has made implantation of devices to control tremors and movement disorders faster, easier, and better for patients. Implanting electronic devices that offer such relief is the work of Dr. Peter Konrad, assistant professor of neurological surgery. “Across the country, medical centers are shifting the way Parkinson’s is treated. We’re leading the way,” Konrad says. “Before, we could only tell if what we were doing really affects the person,” Konrad says. “Before, we could only guess if there was really a problem in the treated portion of the brain.

“Technologically, we’re on the threshold of a lot of exciting advances,” he adds. Computer-guided imaging gives surgeons real-time images of the device as it’s being implanted in the brain, offering a constant view into the body with minimal invasiveness. “It allows for more accurate procedures with higher degrees of success,” Konrad says. “Overnight stays following the surgery will be routine in the next year.”

Medtronic Tremor Control Therapy device to set electrical probes inside the thalamus, along a portion of the ventral intermediate nucleus, to stop tremors. “High-frequency stimulation overrides the abnormal signaling,” Konrad explains.

Because the device can be turned on and off, “we can tell if what we’re doing really affects the person,” Konrad says. “Before, we could only guess if there was really a problem in the treated portion of the brain.

News Breaks, The Cure of Folly, 1475-1480

Middle Ages: Barber-surgeons roam the European country-sides, offering to remove the “stone of madness” which was said to exist inside the skull of mentally deranged people.

1649 Pierre Puysocrates develops a theory that describes the mind as distinct from the brain.

1938 B.F. Skinner publishes The Behavior of Organisms, 1938

1962 F.D. Schmitt first uses the word “neuroscience” to describe a new interdisciplinary approach to understanding the mind and brain.
plasticity and YOUR BRAIN

Brain damage. The phrase is spoken with the same gravity as terminal cancer or third-degree burns—with good reason. Injuries inflicted on the brain by accidents, stroke, or disease have long been regarded as largely irreversible. Scientists agreed that once human—or animal—brains reached maturity, they were fixed.

Now, thanks to the research of Jon Kaas, we know that brain plasticity—the ability of circuits to adapt and reorganize in response to experience or sensory stimulation—may slow with maturity, but it continues to occur throughout life. Understanding how plasticity works is vital to developing new and better interventions to help overcome brain damage.

Kaas, Centennial Professor of Psychology, professor of cell biology, and Kennedy Center investigator, has studied the brain for some 35 years, most of them at Vanderbilt. It is insights he has revolutionized thinking about brain plasticity. Last year he was inducted into the National Academy of Sciences, one of the highest honors bestowed on an American scientist.

“Normally, mature brains have inhibitory factors that prevent much growth,” Kaas explains. Under ordinary circumstances, that is a good thing. “You wouldn’t want to form new connections in the mature brain because it would just cause noise.”

Kaas and his colleagues have found that when large parts of sensory systems are deprived of their normal input, they can grow new connections to restore activity—even in mature brains.

Scientists have known that following brain injury from stroke or accident, people are initially unable to perform some functions but show improvement over time. But the mechanism for this phenomenon wasn’t well understood.

“Now, we have seen that brain changes start rapidly—within minutes or hours—but some changes take six to eight months. That means that after injury, the brain is not stable for a very long time. So there is a very long time in which we can perhaps influence the outcome.”

Kaas says a whole range of mechanisms are at work following brain injury, including the growth of new connections over considerable distances in the brain. “We think plasticity accounts for great recoveries even after massive strokes that have left the patient unbelievably impaired,” he says. But there may be also be highly undesirable effects of plasticity—phantom pain in parts of the body that have been amputated, or tinnitus (ringing in the ear) after damage to the auditory system.

“We have two goals. Understanding how to make the brain repair itself and work better when it is damaged, and preventing unfortunate outcomes” such as phantom pain or tinnitus.

Throughout most of our lives, Kaas thinks, our brains continue to remodel themselves in subtle ways. In the early stages of Alzheimer’s disease, for example, circuits work to repair themselves. “Finally the system is so deteriorated that it has exhausted all possibilities, and that’s when we start to see symptoms. But systems can lose 80 percent of their neurons before that happens.”

That knowledge holds great promise for the treatment of Alzheimer’s disease, Kaas believes. “If we can prevent the progression, I think we could reverse symptoms to a considerable extent.” Specifically, treatment might involve training individuals to keep their brains active.

One condition in which the brain’s ability to adapt seems to be limited is prenatal exposure to alcohol. Ford Ebner, professor of psychology, professor of cell biology, and investigator and senior fellow at the John F. Kennedy Center, is probing how prenatal exposure to alcohol inhibits learning. “If adults go on a drinking binge, we would come out of it with no detectable difference in our intellectual abilities,” he says. “Alcohol’s effects on the adult brain are irreversible—very long period of time.”

In the developing brain of an unbom child, however, the effects can be devastating. “Typically the fetus is only exposed to alcohol until birth, and then unless the mother drinks heavily while nursing the child, there is no further exposure to alcohol. So the puzzling part is that deficiencies caused by prenatal alcohol exposure don’t seem to self-correct.”

Just why alcohol at an early age is so devasting is still subject to debate, but Ebner thinks sensory deprivation plays a role. “We know that alcohol regulates some individual molecules that are important for learning and memory. The brain at the time of birth, after a period of alcohol exposure, is in a state where formation of new synapses can’t take advantage of sensory experiences.”

Ebner’s research with rats has shown that early sensory deprivation has negative effects. Nocturnal creatures, rats derive much of their sensory information from their whiskers. When researchers trim the whiskers off one side in young rats, says Ebner, “the animals are okay and there’s little damage to the nervous system—but they don’t get much information from those whiskers. Just that simple manipulation, on the other hand, leaves their cortex unable to modify the synapses in order for learning to occur at a normal rate.”

Early intervention may be crucial in improving the outlook for developing brains that have experienced sensory deprivation. Ebner and his colleagues have discovered that when rats are exposed to alcohol throughout gestation, the whisker neurons adapt to change slowly. He believes that the slowed rate of plasticity—the ability of circuits to adapt and reorganize in response to experience or sensory stimulation—could explain the mental retardation that accompanies fetal alcohol syndrome.

Increasing brain activity by raising prenatally alcohol-exposed rats in an enriched environment, with plenty of stimulating toys, restores about half of the brain’s plasticity. Now, Vanderbilt researchers are looking for a way to restore the rest of the function to fetal alcohol-exposed neurons. Prenatal alcohol-exposed rats, they have discovered, have reduced levels of the NM DA receptor, a protein that is important to nerve cell communication. A drug now being tested appears to in crease NM DA receptor activity and help rats learn faster.

“If the results are positive, they could be translatable to humans,” says Ebner.

—GayNelle Doll
The Mysterious, Magnificent Brain

**treat AUTISM**

**autism's profile**

**Characterized by:** Difficulty forming social relationships, impaired understanding and use of language, restricted patterns of activities and interests, and a need for sameness. Children with autism may exhibit repetitive body movements and may be overly sensitive to sights, noises, touches, smells, and tastes.

**Affects:** As many as one in five hundred individuals. Autism is four times more prevalent in boys, but girls with autism are affected more severely.

**Manifests itself:** Typically by age three.

**Possible causes:** Autism's cause is unknown. Cerebellums of many children with autism have decreased size, often up to 30 percent smaller. About 70 to 80 percent of children with autism have mental retardation as well. Genetic factors may be involved.

**Treatment:** Children who receive specialized early intervention can make considerable gains in their cognitive, social, and behavioral functioning. TRIAD (Treatment for Research Institute for Autism Spectrum Disorders) at Vanderbilt offers programs in behavioral training, family consultations, teacher training, and more.

**Research has shown that parents begin to become concerned about their children at the average age of 17 months.** The first concern is usually lack of language development. But children often don't receive definitive diagnosis of autism until preschool or early elementary school.

**The Vanderbilt Bill Wilkerson Center for Otologyngy and Communication Sciences serves approximately 85 children on a weekly basis through its Autism Spectrum Disorders Program. It offers communication intervention and training, parent and professional education, and advocacy in the community and school systems.**

The Wilkerson Center's communication-based intervention program is the only program of its kind for preschoolers with autism in the mid Tennessee area. Speech pathologists help the children improve language skills, and occupational therapists developed other ways of communicating, including sign language and pictures. Many have been successfully mainstreamed.

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**A**ssociate Professor of Pediatrics Wendy Stone and her colleagues hope their work will help make early detection of autism easier. In 1999, armed with a four-year grant from the Department of Education's Office of Special Education Research, they began studying a test the children at Vanderbilt developed—STAT (Screening Tool for Autism in Two-year-olds).

"We want to be able to identify children with developmental delays and language delays who also have autism, from those who may just have developmental or language delays," says Stone.

**Though they look like something out of a Star Wars sequel,** these Greebles were devised as a research tool. Greebles are helping scientists like Isabel Gauthier, assistant professor of psychology at Yale, learn more about how humans distinguish between faces. For most of us, recognizing the face of a friend in a crowd is relatively easy. We use a small region at the bottom of the brain called the fusiform face area (FFA), in studies with colleagues at Yale, Gauthier has observed research subjects' brains as they try to distinguish between up to 60 Greebles divided by gender and family groups. Persons with autism frequently experience great difficulty in recognizing and distinguishing between faces. Gauthier's research could provide ideas for improved methods of treating autism.

"Identifying genetic defects in autism will give us tools to understand the biology and thereby to help better treat, or possibly prevent, the disorder," says Haines.

— Nancy Humphrey and Leigh M. Allman

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The Mysterious, Magnificent Brain

Managing SCHIZOPHRENIA

A COLLABORATIVE EFFORT

By Sylvia P. C. Bower, Lisa F. Rizzuto, and Richard L. Rosenbaum

Great wits are sure to madness near allied,” wrote poet John Dryden in 1681, “and thin partitions do their bounds divide.” Dryden was neither the first nor the last to observe the link between creative genius and mental instability—particularly the hallucinations, paranoia, and disturbed emotional responses that characterize what we now call schizophrenia.

The list of poets, artists, political leaders, and other creative people who have been diagnosed with schizophrenia is difficult at best. “A patient who is paranoid might refuse to enter a scanner because we don’t fully understand all its multiple aspects,” Meltzer explains. “For years, schizophrenia has been identified, making positive diagnosis difficult.”

AFFECTS: To date, no single confirming marker for schizophrenia has been identified, making positive diagnosis difficult. A patient who is paranoid might refuse to enter a scanner because we don’t fully understand all its multiple aspects. “For years, schizophrenia has been identified, making positive diagnosis difficult.”

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MANIFESTS ITSELF: In late adolescence or early adulthood, males tend to have earlier onset and more treatment-resistant problems. Psychosis in females may increase in simple short-term memory exercises, they have found that positive reinforcement from another person in the same room produces improved memory performance. By comparison, positive reinforcement in the form of computer messages or recorded voice produces no appreciable improvement.

In another test, Park and her colleagues have found that persons with schizophrenia exhibit severe deficits in the type of short-term memory called working memory, which is the system for maintaining information in brief term and examining key areas of the brain related to psychosis and memory impairment.

Researchers like Park look forward to a time when schizophrenia will be managed in much the same way as other diseases like diabetes. “It’s a goal for all of us studying schizophrenia,” she says. “Treatment is continually getting better.”

Possible causes: Schizophrenia has been solely linked to a genetic disease. Relatives of schizophrenia patients face a tenfold risk of developing the disorder. Complications in the second trimester of expectant mothers seem to place offspring at increased risk for developing schizophrenia.

Treatment: New antipsychotic drugs such as clozapine alleviate both cognitive impairment and hallucinations. Although schizophrenia has been linked to genes altered by these drugs, scientists hope to identify genes important in schizophrenia.

The brain responsible for treatment strategy was based on blocking dopamine. “It may be that the brain function of schizophrenic patients would improve with more social interaction.”

Researchers have produced a major breakthrough in our ability to study brain disorders like schizophrenia. Dr. Robert Kesler, professor of radiology and radiological sciences, director of neuroimaging, and director of the John F. Kennedy Center at Vanderbilt University, has developed brain imaging methods that allow them to look at basic deficits in the dopaminergic system and how new antipsychotics differ from older ones in their ability to block receptors.

“Dopamine is known at the neurotransmitter involved with Parkinson’s disease.” In Parkinson’s patients, the cells that make dopamine degenerate. Until recently, the only areas of the dopaminergic system that have been quantified. Now, with an imaging compound developed by Kesler, it is possible to image the rest of the dopaminergic system and examine key areas of the brain related to psychosis and memory impairment.

“Meltzer has been a key figure in developing an improved class of antipsychotic drugs, particularly clozapine, which, unlike earlier antipsychotics, improves cognition.”

“Schizophrenia is a complex disease that requires treatment because we don’t fully understand all its multiple aspects,” Meltzer explains. “For years, people focused on the delusions and hallucinations that result from too much dopamine in the brain. Treatment strategy was based on blocking dopamine.”

Metzer, by contrast, viewed the disease holistically, which meant looking at learning, memory, attention, and executive function—the capacity to make good judgments. Cognitive deficit problems such as these are not helped by dopamine receptor blockage. Meltzer’s work showed that clozapine, and subsequently developed drugs, could substantially improve cognitive deficits.

“Now that we understand better that schizophrenia is a cognitive illness, we’re in a position to focus on exploring cognitive impairment and how better to treat it.” says Meltzer, who believes his research will also enhance understanding of Alzheimer’s disease, other forms of dementia, and even age-associated memory impairment.

Because the class of drugs Meltzer helped develop produces fewer side effects than previous antipsychotics, they can be used more broadly for treating depression, mania, Alzheimer’s disease, senile sarcoses, character disturbances, and personality disorders.

One of the more intriguing sources of information about schizophrenia comes from hallucinogenic drugs like LSD and PCP, also known as phencyclidine or angel dust. “We may not be able to cure schizophrenia, but we hope to help people lead fruitful, productive, normal lives,” says Meltzer.

GayNelle Doll

VANDERBILT MAGAZINE FALL 2001
Are things getting better or falling apart? Did the bombs that leveled Hiroshima and Nagasaki stop the lights of civilization from going out or show humanity’s darkest capacity for mass destruction? In an era of global warming, ethnic cleansing, and drug-resistant bacteria, does anybody still think the world is improving? And with all the busy-ness of jobs, families, and life in the triple-zero decade’s fast lane, who has time to stop and think about big questions like these? Anyway, what does it matter?

David Wood thinks it matters a lot. The Vanderbilt philosopher organized a series of three public lectures in March on “The Possibility of Progress.” The speakers—John Lachs, John Compton, and Gregg Horowitz—are all distinguished professors of philosophy at Vanderbilt, but their takes on this issue could hardly be more different. What follows over the next few pages is an abridgement of their lectures.

Introductory text: Beth Conklin, Associate Professor of Anthropology

The Possibility of Progress

The Vanderbilt philosophers look at just how far we’ve come.
by John Lachs

Both Better Off and Better:
Moral Progress Amid Continuing Carnage

It is a lament of 20th-century atrocities, my argument may seem subtle and ho-low. To intellectuals who equate sophistica-
tion with cynicism, it will appear naïve and
perhaps shallow. To seekers after perfec-
tion who find each number wanting because
it falsifies the infinite, it will be seen in
futurity. But to the rest of us, what I have to
say may serve as a reassuring reminder of how
fortune we are to live today and not even just
a few hundred years ago. It may also evoke
reasonable hopes for the future and establish
a standard by which to measure the magni-
tude of the tasks on the road ahead.

I wish to show that in spite of the misery
and wickedness that still remain in the world,
the human race has enjoyed significant moral
progress over the course of history. At every
time, the ways in which being better off con-
tributes to being better are poorly understood
and inadequately appreciated. I hope to be-
able to clarify the connection.

Let me begin by acknowledging that
the 20th century was full of events ranging
from the lamentable to the awful, and the
21st century is following suit. The world is
struck by the magnitude of human suffering
and violence that still remain in the world,
as well as by the human capacity to inflict such
damaging events. The means our prosperous
industrial world provides directly promote the
growth of virtue. Consider the power of
telecommunications. Modern villages re-
cieve news and information from the outside.
Today, e-mail, the telephone, CNN, and fax
machines have forged indissoluble links be-
tween people and people around the globe. Once
we know what happens to them, we cannot be
indifferent to their fates.

Those who wish to argue that trade and
wealth and communication change only our
actions and not who we are need to develop
a better understanding of the intricate links
between “external” actions and the inner
person. What we do again and again penetrate-
sthe soul and shapes it in its image.

Rapid transportation, instantaneous
communication, and universal commerce make us par-
ticipants in the lives of others. The leisure and
wealth generated by highly productive econo-
 mies provide the wherewithal to aid our fellow-
men. Without the infrastructure of the modern
world, large-scale concern for others would be
impossible. The only resource of decency is
the imagination that enables us to place our-
selves in the position of others. Sensory con-
tact with the distant persons as a mechanism
of imagination. Television brings us the distant
scene and we are no longer confined to con-
tact with others through the lens of place
and space, but can instead view images of
people, events, and places.

In assessing what good there might be in
the development of technology, and the spread
of democratic values, one cannot help but ex-
amine the past and current state of affairs.
A better understanding of the human body,
ingenuity, inventiveness, and sustained labor
have made human life immeasurably better.
What would satisfy them cannot deny that
the development of technology, and the spread
of democratic values, have made human life
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y, inventiveness, and sustained labor have
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Moral Progress

We can now do things prior generations
could hardly imagine the gods perform-
ing, sending messages to each other in the dark
of night, making hot rooms cold by
turning a knob, and growing food in desert
sand. Such choices mean that we can de-
termin our own good: we can still permit
our teeth to rot or the heat to suffocate us,
but we don't have to.

With all good things, progress comes at a
cost. The use of penicillin has admitted.
ly caused a number of deaths and its avail-
ability may have contributed to less than optimal
care in certain situations. The use of antibiotics
has also led to the rise of resistant pathogens
and the antibiotic resistance problem that is
becoming more common today, because it is less
necessary. But we are still able to use them
appropriately for the treatment of infections
in the body, face brighter prospects, have a
better chance of enjoying worthwhile experi-
ences, and live more peaceful lives than any
previous generation.

To learn what life was like in prior cen-
turies, we need to read about the trials of ordi-
nary persons, not the exploits of the high and
mighty. The little people who built the pyramids
of ancient Egypt and the cathedrals of medi-
aval Europe were infested with parasites and
found themselves at the mercy of tyrannical
rulers and a poorly understood, ter-
rible environment. The peasants of the high
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Moral Progress
What Photoshop has begun to reveal to us is that a world in which invention and intelligibility are so entirely riven, a world in which painting and photography, hand and eye, are, in the words of the philosopher Theodor Adorno, two halves that do not add up to a whole—that this is an impossible world.

Gursky’s working procedures some-thing like this: he first makes photographs that are counterfactually dependent on the world, but he sees them as a forms of painting. He then uses Photoshop to fill out the image so that it becomes simultaneously incomprehensible and all too vivid.

Gursky’s images try to show how the face of the world, which is now only a mask, has gotten away from us. Our technology allows us just enough distance to remain un- moved by this mask even when it is in pain. It is a touch-up technology that is driving our artistic ability to represent the world’s claim on us backwards rather than forwards. The world that cannot be visually measured is the world without a face.

This problem of whether the world can be visually measured is at the heart of Gursky’s photographs. It is also what ties his work to the history of painting understood as the effort to render the world visually intelligible. The reiteration of elements in Gursky’s overstuffed Photoshop images is, in a sense, the photographic equivalent of impressionism, an art of the disappearing world.

With Photoshop, Gursky has, perhaps, given a face to the faceless world. It is a surprisingly beautiful face, a fact I have not even referred to until now, but its beauty is a mask for something. Whether this sort of masking eventually becomes expressive will have some bearing on the future of art and is therefore a question of pressing concern for aesthetes.

But whether we can craft a face at all that is fit to measure a world that has unhanded us is a problem for the future of the human world in general, and, as such, its significance for us all is immeasurable.
Knowledge and Power: Some Social Consequences of Scientific and Technological Progress

The son of a Nobel Prize winner who led the development of the atomic bomb, John Compton is especially concerned about the double-edged consequences of science and technology. August 6, 1945, was the day that called the whole idea of progress into question for me," he says.

"Big Science," as we now know it, is a completely new phenomenon, with unprecedented social and environmental impact. Today, there is no manufacturer or business that does not feed off basic scientific research, and there is no basic research in the physical and biological sciences without foreseeability—and of course, also, unforeseeability—consequences in practical application. In the process, the boundary between science and technology has all along brought unsettling dislocations with it. New scientific understanding has often challenged traditional religious and philosophical ideas—as happened with the Copernican and Darwinian revolutions, or, as we are seeing today, in the rigorous probing of the physical laws of nature.

New science and new technology are every-where—in our consumer goods, our hous-es, foods and medicines, our automobiles, reads, airplanes, and computers; in our busi-nesses and government services; and even in music, education, and the arts.

We have come to see that the link between science and technology is not accidental; science is, in fact, essentially technological.

This was hardly visible before. The time span between theory and any application was often quite long. But William James saw it clearly: Any theoretical investigation that seeks law-like predictions of phenomena is already ready-made for application, a formula for action. Descartes was right about this link between theory and practice; new scientific understanding fundamentally transforms the meaning of human action. For centuries, human activity had largely local and temporary effects. "Technika," the arts and crafts, were relatively simple and human in scale, with limited environmental impact.

In recent years, with newer technologies and more and more people to employ and be served by, the impacts have been dramatically magnified—one irreversible depletion of water and mineral resources, irreversible loss of old forest lands, of topsoil in farm land, and of thousands of plant and animal species, polluted surfac water and oceanic waste that won’t go away for 3,000 years, cancer holes, and, in and through it all, global warming.

The conclusion is clear: human actions now have a power and reach we earlier contemplated only in myth. And with this transformation of the meaning of human action comes a transformation in the meaning of ethics.

Theorists object that traditional ethics had been based on difference and humanism to human life. We had earlier supposed that nature could take care of itself. But it is not just that we can now foresee the ultimate consequences of what we do, but the speculative aspect of human nature a key object of traditional ethics. Everything we do—what we buy, what we eat, how much fuel we burn—has ultimate consequences. We have come to realize our situation, to realize that we are superior to, but only different from, our fellow creatures. There is no way of avoiding the world into the human and the non-human any more. It is surely time to act on what we know to renew our name of common destiny with all the citizens of the planet, human and non-human alike.

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Astonishing and prophetic words for the theologians of the physical basis of mind. And new technologies have always brought with them transformations in social practice.

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"Big Science" pervasively linked to Big Technology, as we now know it, is a completely new phenomenon, with unprecedented social and environmental impact. Today, there is no manufacturer or business that does not feed off basic scientific research, and there is no basic research in the physical and biological sciences without foreseeability—and of course, also, unforeseeability—consequences in practical application. In the process, the boundary between science and technology has all along brought unsettling dislocations with it. New scientific understanding has often challenged traditional religious and philosophical ideas—as happened with the Copernican and Darwinian revolutions, or, as we are seeing today, in the rigorous probing of the physical laws of nature.

Astonishing and prophetic words for the theologians of the physical basis of mind. And new technologies have always brought with them transformations in social practice.

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ome people call Dr. Charlie Harrison “The Tall Healer.” Colleagues took to calling him “Doc Hollywood” when the longtime Atlanta Falcons team physician started appearing before television cameras to talk about head coach Dan Reeves’ dramatic recovery from heart bypass surgery in 1998. His favorite nickname, however, is “Chick,” the nickname used by his five grandchildren.

The same adjectives keep coming up when longtime associates describe Harrison—great doctor, smart, honest, humble, personable, caring, friendly, funny, a good family man. He’s also an accomplished amateur photographer, an avid Bible reader who serves on his church board, and once won the blue ribbon for a flower arrangement at a competition between two garden clubs.

Team physician for the Falcons for thirty-five years, Harrison is among the best in the business. In February he received the Hawk Award, emblematic of the NFL Physician of the Year, from the Professional Football Physicians Society this past February. His three and a half decades with the Falcons is one of the longest doctor affiliations in NFL history.

“I love it,” he says. “It’s fun to work with people who are tremendously motivated to get well. A high performance athlete who makes his living playing a particular sport wants to get back (from an injury or illness) as soon as he can. It keeps the competitive fires burning just being around these players.”

Jerry Rhea, who worked with Harrison for twenty-five years as the Falcons trainer before moving into the team’s front office, believes he knows the keys to Harrison’s success.

“First of all, he’s a fine doctor who doesn’t have any arrogance about him,” says Rhea. “He’s intellectually astute but he’s very down home, humble, kind of foot-shuffling smart. He is terminally good with people, too. When he talks to you, you know he’s honest. Also, there is a difference in being a good doctor and being a good team physician because of the psyche of taking care of athletes. He was an athlete at Vandy and he thinks like one.”

Harrison, B.A. ’56, was a scholarship basketball player who set Vanderbilt rebounding records that were not broken until All-American Clyde Lee came along about a decade later. Harrison ranks second to Lee in the highest rebounding average ever by a senior (14.3), and is third in the same category for juniors (12.9). He still ranks either fourth of fifth in four other Vanderbilt rebounding records; forty-five years after playing his last game. He helped lead Vanderbilt to 26-6 and 39-4 records his junior and senior years, respectively.

More important than the rebounding records, Harrison also met his future wife at Vanderbilt. Betty Ponder Harrison, B.A. ’56, transferred to Vanderbilt after attending Agnes Scott College for two years. The ‘50’s young woman asked one of her brothers, who was attending Vanderbilt, if he had any tall friends or fraternity brothers. He replied that 6’7” basketball player Charlie Harrison was a fraternity brother. She immediately looked up Charlie’s picture in her brother’s yearbook.

“The first day Betty was at Vanderbilt, I walked into Ireland,” Harrison says. “She was in there with her brother and he pointed me out. We didn’t start dating until the following summer, when I was taking a whole year of physics in summer school plus a graduate course at Peabody.” He and Betty married after his first year at the Emory School of Medicine. They have three grown sons.

“That entire family is such good people,” says Tommy Nobis, an NFL Hall of Fame linebacker for the Falcons who is now the team’s vice president of corporate development. “When you get to know Betty and Charlie, you just can’t help but like them. They’re a perfect couple.”

Harrison completed his residency at Duke University Medical Center. He was completing a tour of duty with the Air Force in 1966. He ducked into a delicatessen and bumped into two physicians who had taught him at Emory Medical School. They were members of an orthopedic group that had been selected by both the Braves and Falcons.

“They were getting ready to go to spring training with the Braves and didn’t have an internist to help them give physicals,” Harrison says. “They said, ‘Could you get off hold and do the physicals? We also just learned today that we’ve been selected by the Falcons to do their orthopedic work.’

“I said, ‘Why don’t we do a doubleheader, and I’ll do the Braves if you’ll let me do the Falcons, too. Y ou think about it and call me when you decide.’ They called me that night and agreed to that arrangement.”

A few years later the Atlanta Hawks came on the scene, and Harrison added them to his “rotation.” He also took care of the Atlanta soccer team, the Chiefs. About the time the Chiefs dissolved, the Atlanta Flames hockey team was formed, and you guessed it: Harrison became their team physician.

Over the years, Harrison was forced to limit his team physician duties to those with the Falcons.

“It was running me ragged,” he says of
Harrison has had given Reeves a physical and stress tests when he first came to Atlanta. He was aware of the previous episodes of heart trouble. He immediately examined the coach and then got on his cell phone to arrange for an angiogram to be performed on Reeves early the next morning. He had a good idea of what it might reveal.

"I knew it was probably going to show that he needed heart bypass surgery. There's no way I knew this was the time interval between the first difficulties he had experienced and this one. The angiogram showed that he had multi-vessel obstructions, one of which was ninety-nine percent closed."

"I knew it was probably going to show that I would be going to have to get it checked out. Do you think that's okay? He looked at me and said, 'That's the dumbest thing I've ever heard in my life. I went in and get this checked out and checked out now.'"

Upon completing masters' degrees in art history, Jelena Bogdanović and Ljubomir Milanović introduced the administering of I.V. fluids for players suffering from dehydration during or after games. Administering I.V. fluids to players in danger of dehydration is now a standard practice in both college and pro football.

"Of course, I'm having those same symptoms in my throat that they told me would always be my cue that something was wrong with my heart. I'm going to wait until I'm sure I'm over it and then get it checked out. Do you think that's okay?" He looked at me and said, "That's the dumbest thing I've ever heard in my life. I went in and get this checked out and checked out now."

"After the game was over, I said, 'Charlie, I'm having these same symptoms in my throat that they told me would always be my cue that something was wrong with my heart. I'm going to wait until I'm sure I'm over it and then get it checked out. Do you think that's okay?" He looked at me and said, 'That's the dumbest thing I've ever heard in my life. I went in and get this checked out and checked out now.'"

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As for the nickname Chick, he got it from my wife, he loved my mother-in-law, and I really think he liked me. I knew if I could survive five years with Norm Van Brocklin, I could survive anything!"

"Harrison's greatest fame as a "jock-doc" came when he diagnosed Dan Reeves heart condition and then cared for him so that the Atlanta coach could return to the sidelines just weeks after undergoing triple bypass heart surgery.

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As I was preparing the applications to different graduate schools, of Belgrade, defended his decision to study in America by telling his friends, “You cannot have borders in your mind if you wish to lead as scholarly life,” a defense shared by his Vanderbilt classmate, Bogdanović. When the ... to the ‘immediate or nuclear family,’ but for Serbians, relationships are defined more inclusively and extensively.”

The primary reasons that motivated Bogdanović and Milanović to apply to American institutions were the high rankings of the country’s graduate programs among the world’s universities and the availability of research scholarships. Although the two applicants had studied for their undergraduate degrees at the same time and were residing and working in the same city, Bogdanović and Milanović had never met. Both had conducted research, via the Internet, for graduate schools that offered courses in Byzantine and medieval art. When they engaged in regular exchanges, the two friends saw an opportunity to meet in Belgrade and planned their first trip to America.

Bogdanović and Milanović investigated the graduate programs at more than 50 universities, and Vanderbilt occupied a place on their short lists of schools to which they hoped to be admitted. Without Borders

Peter Reed, acting dean of the Graduate School, informing her that she had been awarded the University’s highest honorary graduate fellowship. But as Milanović approached customs officials at the Serbian-Hungarian border, he feared being denied passage because of a secret that accompanied him.

As they enter their final year at Vanderbilt and begin writing their masters’ theses, Bogdanović and Milanović anticipate returning to Serbia where they plan to teach on the university level. They also hope to apply their graduate coursework in Byzantine and medieval art history to projects dedicated to the restoration and preservation of Serbia’s religious monuments—such as the monasteries that Bogdanović sketched as a young girl when she and her parents traveled to the seaside, or the cloisters where Milanović walked as a boy when her grandmother took her to church. International laws theoretically protect such monuments during conflicts, but in reality they are often targeted by bombs and later disassembled as collateral damage of war.

By working to preserve Serbia’s artistic heritage, Bogdanović and Milanović will be making their contribution to a country where the first priority is not restoring cultural patrimony but promoting economic reform, where ideas about “restorative justice” are discussed more frequently than restoration of Palaeologan-style frescoes in Gracanica. Both students contend that Serbia’s evolution toward democracy must be approached as delicately as turning the pages of a medieval illuminated manuscript, yet they see optimism about the new government led by Vojislav Koštunica and his ability to help the people achieve the future they desire as a source of division among the Serbian Americans. They view the recently elected leader of Serbia to make recommendations for the transition government, their advice to him would be expressed in a single, unequivocal statement: “Don’t steal from the people.”

The Serbian family that would be locked in a small ghetto where I close my eyes, my ears, and my mouth. I witnessed Yugoslavia become a ghetto during the past decade of economic sanctions. Our intellectual maps cannot be restricted by the same boundaries that divide geographical maps.”

A Peaceful translation
since ceded leadership on foreign policy to the President of the United States. Although some members of Congress still cling to the illusion that the legislative branch consists of 535 “Statesmen of the Union,” they would be the first to admit that the current division of labor is far from ideal. Indeed, for much of our history, Congress dominated the making of our foreign policy. The fine print in the U.S. Constitution still provides that only Congress can declare war.

The ambitious reporter demonstrates a willingness to do whatever it takes to get the story and keep it on the front page. What begins as Nancy Drew, however, rapidly becomes Dorothy Day. As she uncoveres more and more details about the victim and her dangerously ill wife, Olivia becomes more and more empathetic, and her empathy swells to a terrifying obsession. That 26-year-old writer combines the potent ingredients of murder, drap, music, wealth, and privilege, and does so with such deftness that it is a suspense thriller.

The scope of Oliver’s book is wider-ranging in both the articulation of the central vision that animates James’s philosophy and in showing the development of his views from the grounds up through contentious academic discussions and living issues. By focusing on transnational relations, Oliver demonstrates the moral positions on subjectivity, mysticism, naturalism, existentialism, religion, personal flourishing, and social solidarity James contemplates (most notably Sanday and William James’s new religious attention, as do some of our own (Daniel Dennett and Richard Dawkins). Importantly, Oliver also provides an insightful commentary on the peacock show of [author’s name] and its possible companion, Bill Gates. Oliver succeeds most, though, in redirecting our attention to those personal details that animate daily lives and fund our happiness.

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Twisting this and that, Joel’s literary page turns into a fully imagined and stunning portrait of two young women’s lives and loves. Stewart, now a resident of North Carolina, grew up with an Air Force father, the family living in nine states and two countries. Her short stories have appeared in publications including the Ironman Review. —GayeTelle Cowley

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ALUMNI ASSOCIATION SEeks NominATIONS FOR DISTINGUISHED ALUMNI AWARD

The Alumni Association of Vanderbilt University presents the Distinguished Alumni Award to an alumna or alumnus whose extraordinary achievements have had a positive and significant impact on society. If you would like to place a name in nomination, please use this form or other written document with this information and mail to: Stephen S.River, President, Alumni Association, Vanderbilt University, 117 Alumni Hall, Nashville, TN 37230. Nominations are due by December 1, 2001.
Symbiosis on a Grand Scale

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Curt Dudley Hewett, Jr., BE’49, could be a spokesman for the American Council on Physics Education. The 78-year-old Longines 500 push-ups puts up a day along with time to four-mile walks. He rides at 4 A.M. for exercises and for about an hour before breakfast, a routine he’s followed for “a long time,” he says. “I’ve been doing it for years. To know you’re fit, I’m afraid to quit. Who knows what would happen if I didn’t? I’m a chemical engineer with E. I. Dupont De Nemours Co. in New Jersey. Thomasville, Ga., has not missed a day of work due to illness or injury for more than 56 years. His penchant for exercising is off on one of his two daughters, who regularly run marathons.

When one realizes the depth and the power of words shaped so skillfully, it’s all the more fascinating to see what George Ford, JD’64, retired in 1997 after 38 years as a civilian lawyer for the U.S. Navy’s Military Sealift Command, accomplished during his eight years as a legal resident of Virginia. He and his wife of more than 38 years, Virginia Aber Foster ’62, retired after 30 years of medical practice in Louisville, Ky. They commute to Nashville once a week to attend a theology course at the Vanderbilt Divinity School “just for the fun of it.”

Robert M. Holder Jr., BE’51, was president and CEO of Hospice of Rockingham County, a private, non-profit organization in Reidsville, N.C. He was confirmed in June 2000 by the U.S. Senate as the U.S. Ambassador to Turkey. Previously, he held a three-year appointment to Paris, France, where Bob was deputy chief of mission and his wife, Maggie, was embassy press spokesperson.

C. R. White, BE’51, was a finalist for the Oregon Book Award in 1999, “I thought that listening to the human world might be important,” Bob said. “I’m not going to make it to her home. One of the special, poetic things about the house is that it’s become a kind of haven for all that I have come to experience.”

If this sounds as though Coogler is a sartorial woman, think again. She’s also a director of a former state of Arizona, President of the University of Arizona, and a member of the Board of Trustees of the University of California. Hers was the official publication of the South Central Modern Language Association, for 15 years and was president of the South Central Renaissance Society and founder of the South Central College English Association. Lola Llewellyn, RN, was honored at a surprise party September 5th to establish an endowed professorship at the Louisville School of Nursing at the University of Kentucky. The professorship was established by Terry and Bonnie Ertelt, long-time associate and vice president of marketing for Holladay’s Carports. Bob and Bonnie, who were married in 1966, are her husband and his wife, Maggie, was embassy press spokesperson.

Joel Rochow named president and CEO of Hospice of Rockingham County, a private, non-profit organization in Reidsville, N.C. He was confirmed in June 2000 by the U.S. Senate as the U.S. Ambassador to Turkey. previously, he held a three-year appointment to Paris, France, where Bob was deputy chief of mission and his wife, Maggie, was embassy press spokesperson.

Ralph Hurricane, JD, was elected president of the Tennessee Trial Lawyers’ Association, for 2000–2001. He is an attorney with the Knoxville firm of Rainwater & Humble.

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Robert A. Rutland, JD, was elected president of the Tennessee Trial Lawyers’ Association, for 2000–2001. He is an attorney with the Knoxville firm of Rainwater & Humble.

Virginia Aber Foster ’62, retired after 30 years of medical practice in Louisville, Ky. She and her husband, Joanna, rest in Destin, Fla., with his wife of 50 years, Joanna. “Stop by and say hi.”
David Tussey ’75, BA, JD’82, an attorney with the law firm of Brody, Beck, Golbin & Goidberg, was named to the board of directors of The New Power Company, the first national residential and small business energy provider.

Thomas W. Sterling, BA, president and CEO of Transtar, a Monroeville, Penn., holding company that includes seven railroads, two trucking companies, and its own computer network, was appointed to the board of directors of the Port of New Orleans.

Carol J. McDonald, MEd’92, an attorney with Transylvania University, was named senior vice president of provider services at Parkstone Medical Information Systems, a Ft. Lauderdale-based provider of medical information systems. She lives in Nashville.

John Burchfield, MA, EdD, was named to the Alabama A&M University Hall of Fame last summer. He was a track and field coach at AAMU where his teams won 14 straight conference championships, and 11 consecutive cross country championships, with more than 50 All-Americans and several Olympians.

William W. Horton, M. Hayne Hamilton Jr., MA, EdS’75, PhD, was elected mayor of Hendersonville, Tenn., in November 2000. He was director of personnel at Georgia Pacific, and John was promoted to marketing manager at Kawneer Company. They live in Norcross, Ga.

Karen D. Irwin, W. Whitefield, BA, of Ann Arbor, Mich., published a note about his widow, Margaret Douglas Irwin, who was an artist in Renaissance Italy. She also is an artist and currently is at work on an illustrated songbook for children. She lives in Nashville.

Michael C. Feigenbaum, PhD, was elected vice chancellor of the Philadelphia Bar Association and will head the organization in 2003. He is chairman of the board of directors of the Shreveport Medical Society. She is an assistant professor of medicine at LSU Health Sciences Center and is board certified in internal medicine and rheumatology.

Karen G. Perlman, RN, MSN, an instructor of nursing at Aquinas College in Nashville, is author of a third book of poetry, Deva’s Lianas. She presented a Southern Connecticut State University Faculty Scholar Award for her work on “The Use of Flavored Food on Terms of Reference for the Development of a New Food Liqueur.”

Sandy Severino, MA, published her third book of poetry, presented a Southern Connecticut State University Faculty Scholar Award for her work on “The Use of Flavored Food on Terms of Reference for the Development of a New Food Liqueur.”

Thomas Baskin, born on June 2, 2000. Robin resigned her position as program manager at St. Mary Villa in Nashville to be a full-time mom. “Hank has already attended three football games and Homecoming!”

Steven A. Stinson, MD, of Ann Arbor, Mich., published a note about his widow, Margaret Douglas Irwin, who was an artist in Renaissance Italy. She also is an artist and currently is at work on an illustrated songbook for children. She lives in Nashville.

Suzanne Ortega, director of business development and process management at Hitachi Data Systems, a Denver-based provider of information technology infrastructure and services, was named an associate professor at Santa Barbara City College. She is an associate professor of accounting at Santa Barbara City College. She is an associate professor of accounting at Santa Barbara City College. She is an associate professor of accounting at Santa Barbara City College. She is an associate professor of accounting at Santa Barbara City College.
Heidi Uebroth

NBA STANDOUT

An all-girl American with a global perspective—
that's Heidi Uebroth, BBA ‘87, who’s now a vice- president of Global Media Properties and Marketing, NBA Entertainment, the latter being the sales and marketing arm of the NBA. In 1998, she was named vice-president of Globa!

Edits, and the highest-ranking female executive in the major professional sports leagues.

Heidi was born and raised in Franklin, Tenn., to work as a general surgeon with Franklin Surgical Specialists. She attended medical school and general surgery training at Tulane University and spent a year in London training in laparoscopic surgery.

Karen Napoli, BA ‘87, writes that

Inman Majors, BS ‘86, a board certified anesthesiologist with the Nashville law firm of Miller & Martin practicing in estate planning, probate and taxation, and corporate law.

Ivan J. Reich, BS ‘87, was named a

For her successful work in helping women escape the dangerous cycle of chemical dependency and prostitution, the Rev. Becca Stevens, MDiv ‘90, was named Nashvillian of the Year 2000 by the Business Journal of Middle Tennessee.

A HERO TO WOMEN

For her successful work in helping women escape the dangerous cycle of chemical dependency and prostitution, the Rev. Becca Stevens, MDiv ‘90, was named Nashvillian of the Year 2000 by the Business Journal of Middle Tennessee.

The number one health threat to women is chemical dependency. As the single largest drug-using population, women are more vulnerable than men because they are less able to resist the euphoric effects of drugs and less able to get treatment. As the cost of their treatment is so high, most women are not able to affording drug treatment.

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In 2001, Denise Lasprogata, designer of the DEE DEE line of women's clothing, lost her sight in a car accident and was forced to close down her business. Although an estimated $5 million Americans are legally blind or severely limited in their vision, Lasprogata, BFA, discovered that no national system exists for labeling clothing with Braille. After several years of research on properties of various papers and plastics, Lasprogata patented a clothing label that identifies the color and fiber content of a garment, which are both blind and reading aids. The labels are produced on a specially coated plastic paper that is washable, will not peel off, and is nonabrasive to skin.

Her small product line has developed a market for Lasprogata in the Atlanta area and is expanding into Chicago. Lasprogata's clothing labels are being used by major designers and retailers to promote her technology, and she has been lobbying for government-mandated Braille labeling of clothing.

This is more than simply adding Braille to the clothing of visually impaired people. "For the blind, Braille is a functional necessity. These tags are opening exciting new doors for them."

Denise Lasprogata’s blog, www.deedee.com, is available free of charge.
2000. They live in Franklin, Tenn.

Kristen Rebecca Lodwick, BSE '98, married James Mark Beavers, BSE '98, of Franklin, Tenn.


Douglas J. Hillier, BA, joined the medical school at the University of Alabama at Birmingham.

2000. They live in Hendersonville, Tenn.

Travis Mattison, BA '00, of Winterville, N.C., married Elizabeth Sue Sargent, BA '00, of Spartanburg, S.C., on March 30, 2000. They live in Nashville.

Lenny Easley, BA, married Matt Batten, BSE '19. [109, on Sept. 3, 2000. They live in Nashville, where he is an attorney.

David Benson, JD '99, of Houston and New York City as an energy investment banker with JPMorgan Chase.

Vanessa A. Sledge, BE, and Mark Lowell Peters, BS, at the University of Miami College of Law and Emory University, BA at medical school in Philadelphia. Nick Ellinger, BA, MD '00, joined HealthSouth, a global health care management firm, as a vice president for business development.

John D. Grimes, II, E '99, and wife, in both Houston and New York City as an attorney for the law firm of Shearman & Sterling.

Charles R. Johnson, III, BS, works in both Atlanta and Memphis as a personal banker.

Adam Harder, BA '00, married Lauren J. Eck, BA '98, of Memphis, Dec. 8, 2000, of heart failure. He was retired chairman of the physics department at the University of California–San Francisco and was inducted into Omicron Delta Kappa national honorary fraternity. A director emeritus of Third National Bank, he was an elder with First Presbyterian Church. Survivors include his wife and daughter.


John C. O'Connor, II, BA '41, of Chattanooga, Oct. 14, 2000. A former member of the Vanderbilt Board of Trust, he was president and chairman of the board of American National Bank & Trust Company of Chattanooga. He was chairman of the National Advisory Board of the Wetumpka Reserve. He was a veteran of World War II, where he was awarded the Silver Star. He retired from the army as a lieutenant colonel with the rank of lieutenant colonel and was inducted into the Congressional Medal of Honor Society.

Samuel Irvan Voss, BA '44, of Chattanooga, Oct. 30, 2000. A former member of the Yacht Club of the Chesapeake, a board chairman of the Vanderbilt Commodore, a member of the board of the YMCA of Chattanooga and the Rotary Club of Chattanooga, he was an active member of the Chicago Yacht Club. He was an elder with First Presbyterian Church of Chattanooga. Survivors include his wife, Faye, and two brothers, including Vernon Irvin Voss, BA '42, M.D.

Laura T arumianz, BS, joined the Nashville law firm of Rasmeen and Associates as an associate for First Republic Bank on Park Avenue in New York City as a personal banker. Maeve is located in Ferizaj, Kosovo, and Chris in Kumanovo, Macedonia.

Vanderbilt operates a television program. After her husband died in 1997, she earned a certificate in geriatric care management and went on to volunteer in the geriatrics department at Vanderbilt University Medical Center.

Vanderbilt Magazine, Autumn Bowie on Oct. 7, 2000. They live in Franklin, Tenn., with their four children, including a daughter, four grandsons and three great-grandchildren.

Lara Rose Wetherell, JD '99, of Nashville, is a member of the law firm of Greenberg Traurig. They had been married on March 30, 2000. They live in Nashville.

Princeton, Ky., March 11, 2001, at his home. He was retired from the family medical and surgery practice that he took over from his father in 1946. A World War II Army veteran, he was a captain in the Medical Corps and received the American Defense Medal, the World War II Victory Medal, the Korea Service Medal, the Philippine Liberation Medal, the Philippine Cross and the Outstanding Citizen Award. Survivors include his wife, two daughters, including a daughter, four grandsons and three great-grandchildren.

Joyce L. Jones, BA '31, of Huntsville, Ala., April 15, 1997, was buried at Huntsville High School and was a member of St. Elmo United Methodist Church. She was a member of the Churchwomen Organization and the Women's Work. Survivors include her husband, two daughters, and four grandsons and three great-grandchildren.

Michael P. Keating, Jr., JD '87, of Houston, and his wife, seven years ago, as a costspecialist and estimator. Maeve will be located in Ferizaj, Kosovo, and Chris in Kumanovo, Macedonia.

Edward L. Winn Chappell Tarver, BA '69, died of cancer at his home in New York City, where he was a managing partner at the law firm of Skadden, Arps, Slate, Meagher & Flom. He was a member of the New York Stock Exchange and served on the boards of the New York Stock Exchange and the New York Stock Exchange, among other firms.

The latewire is a list of obituaries.

Seth H. Stein, PhD, of San Francisco, Nov. 6, 2000. He was a longtime professor at the University of California–San Francisco and was a member of the National Academy of Sciences. He was a member of the University of California–San Francisco Advisory Committee on the suitability of individuals for positions in active combat. Survivors include a daughter, son, and five grandchildren.

Elizabeth Vise, BA '37, MA '38, of Louisville, Ky., died July 28, 2000. She was a longtime professor at the University of Cincinnati for more than three decades and participated in numerous social organizations. She was a member of First United Methodist Church and participated in numerous civic organizations. Survivors include her husband, a son, a daughter, and four grandchildren.

The latewire is a list of obituaries.

Vanderbilt Magazine Fall 2001

**Obituaries**

**Henry C. Bolling**, BE '33, of Cincinnati, Ohio, Sept. 11, 2000, died of heart attack. He was a self-employed business consultant.

**Mary Elizabeth Tyler**, BA '51, of Alexandria, Va., Jan. 11, 2000, died of cancer. She was a public health administrator.

**John C. Copiglio**, PhD '91, of Nashville, Tenn., Dec. 24, 2000, died of cancer. He was an energy professor of biochemistry at Vanderbilt.

**Bobby Earl Brown**, BA '74, of San Antonio, Texas, Aug. 10, 2000, died of cancer. He was a business manager.

**Melvin S. Butler**, Jr., JD '76, of Nashville, Tenn., Nov. 20, 2000, died of cancer. He was a business manager.

**Earl Bishop**, M.D. '62, of Sumner, Tenn., Dec. 28, 2000, died of cancer. He was a business manager.

**Brian R. Farmer**, PhD '89, of Abingdon, Va., July 17, 2000, died of cancer. He was a business manager.

**Virginia Emery Hendrickson**, M.A.T. '50, of Princeton, N.J., March 6, 2000, died of cancer. She was a business manager.

**William C. Stevens**, PhD '67, of Athens, Ga., July 31, 2000, died of cancer. He was a business manager.

**Steven Lown Grosman**, BAS '81, of Marlborough, Mass., Jan. 7, 2000, died of cancer. He was a business manager.

**Leonard A. Wright**, MD '55, of Norman, Okla., Dec. 30, 2000, died of cancer. He was a business manager.

**Ben W. Sharpe**, Jr., BA '40, of Hurst, Texas, Jan. 10, 2000, died of cancer. He was a business manager.

**Richard Harwood**, M.D. '49, of Chattanooga, Tenn., Dec. 1, 2000, died of cancer. He was a business manager.

**Thomas C. Birdseye**, BA '45, of Boston, Mass., Jan. 10, 2000, died of cancer. He was a business manager.

**William F. & Regina M. Fisher**, of New York, N.Y., Jan. 11, 2000, died of cancer. They were business managers.

**Robert G. Jones**, BE '54, of Nashville, Tenn., Dec. 24, 2000, died of cancer. He was a business manager.

**Robert Morris Varn**, BS '45, of Columbus, Ohio, Nov. 12, 2000, died of cancer. He was a business manager.

**Thomas C. Binkley**, BA '65, of Nashville, Tenn., March 15, 2000, died of cancer. He was a business manager.

**J. Paul Johnson**, BS '50, of Athens, Ga., Dec. 24, 2000, died of cancer. He was a business manager.

**Lawrence E. Friedman**, BA '50, of Athens, Ga., Dec. 17, 1999, died of cancer. He was a business manager.

**Martha Virginia Hendrickson**, BE '49, of Louisville, Ky., Nov. 19, 2000, died of cancer. She was a business manager.

**Virginia Emery Hendrickson**, M.A.T. '50, of Princeton, N.J., March 6, 2000, died of cancer. She was a business manager.

**John G. Coniglio**, BA '50, of Athens, Ga., Dec. 17, 1999, died of cancer. He was a business manager.

**Sidney James Landman**, BA '67; two sons, and two grandchildren.

**Lorene Wilson Reynolds**, BSN '42; two sons, and two grandchildren.

**Mary Elizabeth Tyler**, BA '51, died of cancer. She was a business manager.

**Benjamin W. Rawlins**, Jr., BA '61, of Humboldt, Tenn., Dec. 27, 1999, died of cancer. He was a business manager.

**Lawrence L. Estlin**, BS '43, of Waterloo, Iowa, Aug. 9, 2000, died of cancer. He was a business manager.

**Mary Virginia Hendrickson**, BA '49, of Bowling Green, Ky., Nov. 3, 2000, died of cancer. She was a business manager.

**Merrill Rust Stone**, Jr., BA '40, and is survived by their son, a daughter, and a granddaughter.

**Lawrence L. Estlin**, BS '43, of Waterloo, Iowa, Aug. 9, 2000, died of cancer. He was a business manager.

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Vanderbilt’s Graduate School from 1942 to 1948 and provost until 1951, died Oct. 13, 2000, at his home in Nashville. He was a longtime leader in the Episcopal Diocese of Tennessee.

Jacksonville, Fla., January 20, 2001, of complications following cancer surgery. He served with an Army artillery unit until 1961 and was a member of the Traveler’s Aid Society. Survivors include his wife, two daughters, two step-daughters, a stepson, his mother and two sisters.

Wayne Hyatt of Atlanta, August 22, 2001, at her home after a long battle with cancer. She was active in community advocacy and activism and was a member of the Douglas, Ga., and Metropolitan Atlanta organizations. She is survived by her husband, Amanda Griffin Hyatt of Atlanta, Aug. 22, 2001, at her home after a long battle with cancer. She was active in community advocacy and activism and was a member of the Georgia Governor’s Volunteer Reform Task Force, Georgia Council on Vocational Education, and Council for Competitive Georgia. The United Way named her its volunteer award for her in honor of her contributions to the Douglas, Ga., and Metropolitan Atlanta organizations. She survived her husband, Warren Hyatt, Dec. 3, 1999, a Vanderbilt Board of Trust member and immediate past president of the Vanderbilt Alumni Association Board of Directors.

Tucker White King, BA ’65, MA ’74, of Atlanta, GA, died May 22, 1999. He was a publicist who established his own communications service in the Back Bay area. Survivors include a son and a daughter.

Mary Deeny of Cranberry Township, Pa., May 22, 1999. She was a publicist who established her own communications service in the Back Bay area. Survivors include a son, two daughters, 18 great-grandchildren, and one great-great-grandchild.

Rhona Dermon Zager of Columbus, Ohio, May 13, 2001. He worked in the construction business for more than 30 years and was a partner in the law firm of Stevens & Lee in Reading, Penn., and author of numerous books and articles. Survivors include his wife, a son, and a daughter.

John Shelby Coffey III, first director of the Radnor Library Board, and was a Sunday school teacher at First Baptist Church, Obion.

Howard Edward Smith, a registered professional engineer, was a self-employed consultant and served in the National Guard. He was a fellow of the American Association for the Advancement of Science and a member of the American Chemical Society, Royal Society of Chemistry, Sigma Xi, and the Tennessee Academy of Sciences. He is survived by his wife, a son, two daughters, and a grandson.

Sara C. Chipper Street, PhD ’94, of Ohio, May 31, 2000, of complications following cancer surgery. He was a member of the American Chemical Society and served on the American Chemical Society Board of Directors, the American Chemical Society Board of Directors, and the American Chemical Society Board of Directors. He is survived by his wife, a son, and a daughter.

Joy Marsh White, BS ’68, of Marysville, Ore., March 2, 2003. She was a professor of social work at the University of Oregon and was a member of the Board of Directors of the Oregon Health and Science University. Survivors include her husband, a son, two daughters, and two grandchildren.

Charley Ann Reichley of Nashville, Dec. 9, 2000. She was a Sunday school teacher at First Baptist Church, Obion.

Vanderbilt’s Graduate School from 1942 to 1948 and provost until 1951, died Oct. 13, 2000, at his home in Nashville. He was a longtime leader in the Episcopal Diocese of Tennessee.

Charley Ann Reichley of Nashville, Dec. 9, 2000. She was a Sunday school teacher at First Baptist Church, Obion.

Marcella M. Mosely, BA ’72, MS ’73, of Antioch, Ill., January 2001. She taught speech pathology and audiology in the Department of Communications at Tennessee State University. She is survived by her husband, two sons, two daughters, and two grandchildren.

Anthony Larry Durrence, MD ’70, MA ’73, PhD ’79, of Lexington, Ky., Feb. 2, 2000. She was a professor of medical and a member of the Church of the Incarnation. Survivors include her husband, two sons, and a daughter.

Nancy A. Walker, MA ’67, PhD ’71, of Nashville, Sept. 21, 2000, suddenly of an aneurysm at home. She practiced law in the private and corporate sectors. She was a member of the National Civil Rights Museum and the Downtown Kiwanis Club. Survivors include his wife, a son, a daughter, and his brother.

John Shelby Coffey III, first director of the Radnor Library Board, and was a Sunday school teacher at First Baptist Church, Obion.

Howard Edward Smith, a registered professional engineer, was a self-employed consultant and served in the National Guard. He was a fellow of the American Association for the Advancement of Science and a member of the American Chemical Society, Royal Society of Chemistry, Sigma Xi, and the Tennessee Academy of Sciences. He is survived by his wife, a son, two daughters, and a grandson.
Flowers left beneath the flag pole on alumni lawn in memory of the victims of the September 11th terrorist attacks in New York, Pennsylvania and Washington, D.C.