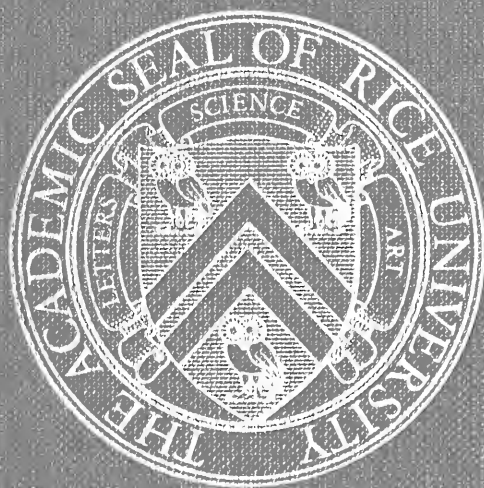


THE INAUGURATION OF MALCOLM GILLIS



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OF MALCOLM GILLIS**

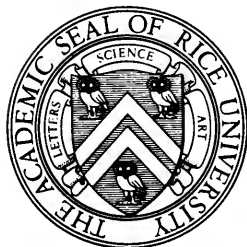


MALCOLM GILLIS

THE INAUGURATION OF MALCOLM GILLIS

WILLIAM MARSH RICE
UNIVERSITY

OCTOBER 29-31, 1993



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Houston, Texas
1994

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THE PRESIDENTS OF RICE

William Marsh Rice University, dedicated to the "Advancement of Letters, Science, and Art," was chartered by its founder in 1891 as William Marsh Rice Institute. The present name was adopted on July 1, 1960.

The first president was Edgar Odell Lovett, professor of mathematics and chair of the department of astronomy at Princeton University when the board of trustees appointed him to the office on December 28, 1907. Five years later, on September 23, 1912, the Institute began its first session, and on three days in the following month, October 10-12, the formal opening was celebrated with an academic festival. Dr. Lovett served as president until March 1, 1946.

William Vermillion Houston, professor of physics at the California Institute of Technology, succeeded as second president from March 1, 1946, to 1960. Carey Croneis, provost and professor of geology, served as acting president until June 30, 1961, while Dr. Houston continued his research and teaching until 1968.

The third president, Kenneth Sanborn Pitzer, was professor of chemistry and dean of the College of Chemistry at the University of California at Berkeley before assuming the presidency of Rice on July 1, 1961. His formal inauguration was scheduled to coincide with the semicentennial of the founding academic festival. Dr. Pitzer left to become president of Stanford in February 1969, and Frank Everson Vandiver, professor of history, served as acting president through August 1970.

On September 1, 1970, Norman Hackerman, professor of chemistry and president of the University of Texas at Austin, took office as the fourth president of Rice. He presided over the university for fifteen years, retiring on June 30, 1985.

The fifth president was George Rupp, who came to Rice from Harvard, where he was John Lord O'Brien Professor of Divinity and dean of the Divinity School. Dr. Rupp resigned in October 1992 and was named president of Columbia University the following spring.

On July 1, 1993, Malcolm Gillis became the sixth president of the university. After receiving a B.A. (1962) and an M.A. (1963) in economics from the University of Florida, he earned his Ph.D. in the same field from the University of Illinois in 1968. He began his teaching career at Duke University in 1967. Two years later he moved to Harvard as lecturer in economics and research fellow. He returned to Duke in 1984 as professor of economics and public policy. In 1986, he was named

dean of the Graduate School and Vice Provost for Academic Affairs, and in 1991 he became dean of the Faculty of Arts and Sciences.

Dr. Gillis has written or edited ten books on economic policy, especially as it relates to Third World economies. He worked extensively with the governments of Bolivia, Colombia, Indonesia, and Pakistan in reforming their tax policies and has also developed programs for encouraging the conservation of natural resources through fiscal incentives.

Dr. Gillis is married to the former Elizabeth Cifers. They have three children, Nora (Mrs. David Bynum), Heather (Mrs. Steve Streets), and Stephen, and three grandchildren, Elizabeth Bynum and Jessica and Travis Streets.

TABLE OF CONTENTS

The Presidents of Rice	v
The Official Summons	1
The Inaugural Proceedings	5
The Installation Ceremony	24
The Inaugural Festival	41
Delegates of Institutions of Higher Learning	43
Delegates of Learned and Professional Societies and Other Institutions	49
Letters and Certificates of Greeting	51
Inaugural Committee and Rice University Marshals	55



THE BOARD OF GOVERNORS
OF
WILLIAM MARSH RICE UNIVERSITY
HEREBY SUMMONS
MALCOLM GILLIS
TO HIS FORMAL INSTALLATION
AS SIXTH PRESIDENT OF THE UNIVERSITY
AT HALF PAST FIVE O'CLOCK
ON SATURDAY THE THIRTIETH OF OCTOBER
NINETEEN HUNDRED AND NINETY-THREE
MAIN ACADEMIC QUADRANGLE

Charles W. Duncan, Jr.
CHAIRMAN
BOARD OF GOVERNORS

THE OFFICIAL SUMMONS

THE OFFICIAL SUMMONS

Inclement weather complicated all inaugural weekend activities. On Friday, October 29, 1993, sporadically heavy rain made it difficult to determine whether the official summons could be delivered to O'Connor House, the president's on-campus residence, or whether Dr. Gillis and his family should be transported by bus to the Sallyport for service of the summons under the protecting arch. At the last minute Charles W. Duncan, Jr., chair of the board of governors, decided to walk to the president's house. Robed in academic regalia and preceded by Chief Marshal Dr. Robert L. Patten (professor of English and master of The Graduate House) wearing a marshal's gown and carrying the ceremonial university mace, Mr. Duncan left the Founder's Room on the second floor of Lovett Hall at 11 A.M. Passing through the Sallyport, the summons party, surrounded by press and followed by governors, staff, faculty, and students, walked east across Founder's Court and then turned north along the road to O'Connor House.

Dr. Patten knocked on the front door with the mace. When Dr. Gillis and his family came out onto the porch, Mr. Duncan unrolled the ribbon-tied scroll and read its text:



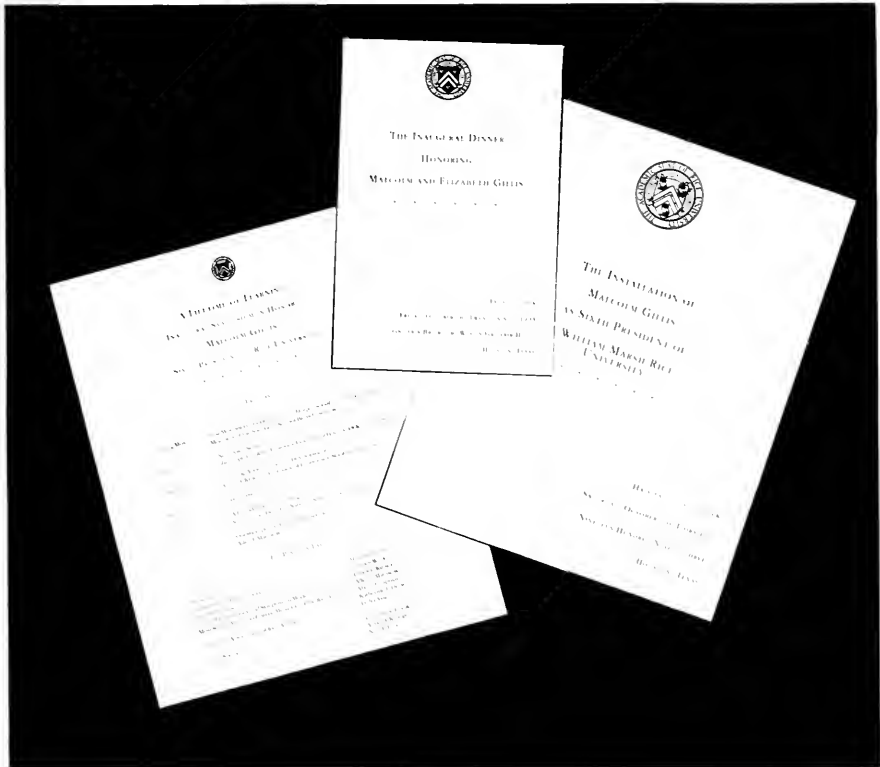
CHAIRMAN OF THE BOARD OF GOVERNORS CHARLES DUNCAN, ELIZABETH GILLIS,
PRESIDENT MALCOLM GILLIS, AND CHIEF MARSHAL ROBERT L. PATTEN.

"The Board of Governors of William Marsh Rice University hereby summons Malcolm Gillis to his formal inauguration as sixth president of the university at half past five o'clock on Saturday, the thirtieth of October, nineteen hundred and ninety-three, main academic quadrangle."

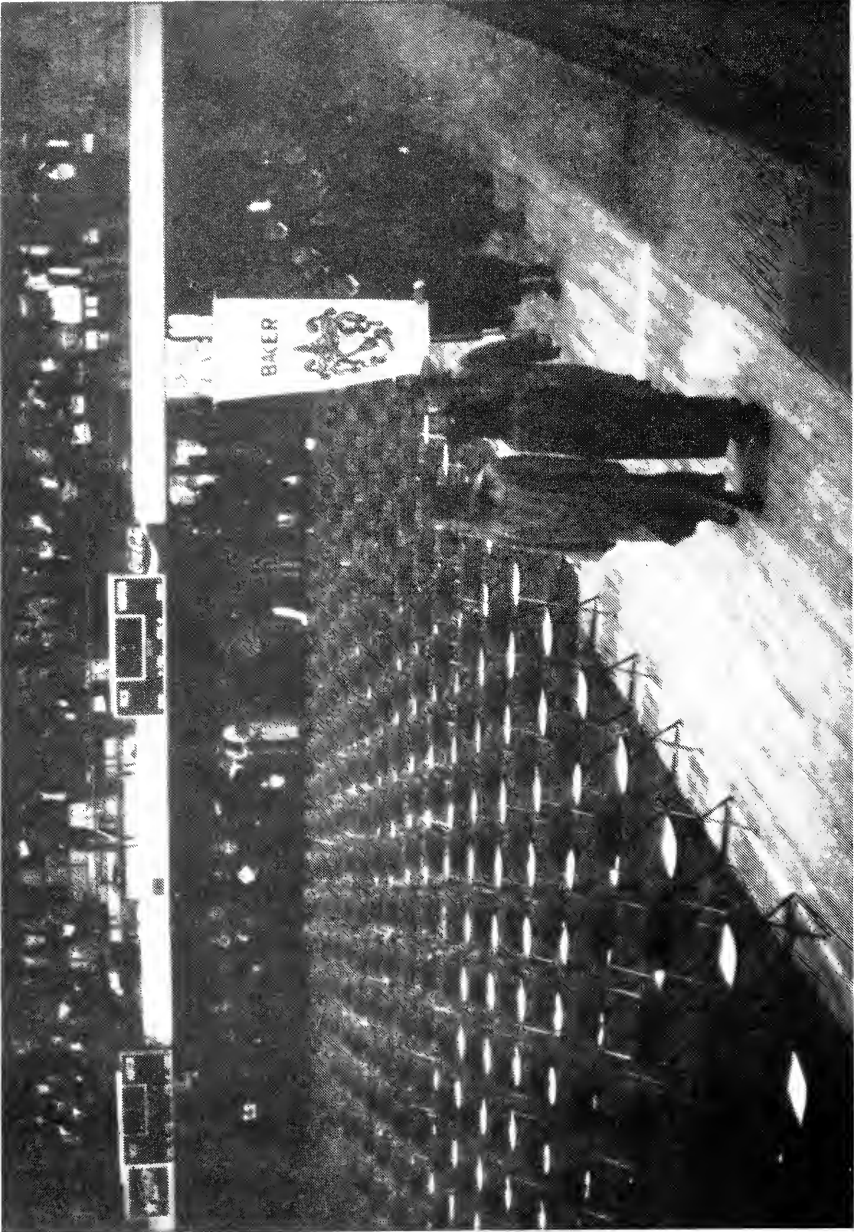
Dr. Gillis acknowledged his intention to attend the ceremony. He posed with Mr. Duncan for photographers, and then he and Mrs. Gillis visited with well-wishers who had braved the rain to witness the event.



FIVE OF THE OFFICIAL GREETINGS CELEBRATING THE GILLIS INAUGURAL.



THE PRESIDENTIAL MEDAL AND PROGRAMS FROM THE INSTALLATION, THE INAUGURAL DINNER, AND THE INAUGURAL SYMPOSIUM.



THE INAUGURAL PROCESSION ENTERING AUTRY COURT.

THE INAUGURAL PROCEEDINGS

Initiating the inaugural weekend festivities, Malcolm and Elizabeth Gillis hosted a reception for all university staff in the Grand Hall of the Rice Memorial Center from 2 to 4 P.M. on Friday afternoon. Approximately two-thirds of Rice's twelve hundred employees took advantage of breaks in the threatening weather to pass through the receiving line, partake of refreshments, and enjoy the solo piano music performed by T. K. Conrad, a graduate student in the Shepherd School of Music. Ruth Parks, assistant dean of natural sciences and chair of the Rice University Commission on Women, made all arrangements for this very successful new event in Rice's inaugural proceedings.

More than one thousand persons attended the convivial dinner held at the Westin Galleria Hotel Ballroom that evening. Guests included members of the board of governors, tenured and tenure-track faculty, senior university administrators, chief executives of area educational institutions, major supporters of the university, and public officials along with several dozen members of the Gillis family and friends of the president. One hundred and four tables filled the ballroom; on each was a rosy centerpiece of Red Delicious apples, wheat, shell-pink Osiani roses, and Peruvian lilies (*Alstroemeria*). The entire evening was planned by Linda Bramlett, director of Events and Functions, and her staff.

Charles Duncan welcomed everyone on behalf of the board of governors. He then introduced the Right Reverend Claude Payne, bishop coadjutor of the Episcopal Diocese of Texas and a Rice engineering graduate. Bishop Payne delivered the following invocation:

O God of unchangeable power and eternal light: look favorably on your whole creation, and especially upon this magnificent Earth, our island home.

We remember before you this evening the field of higher education. Especially do we express our gratitude for Rice University and its contribution through the years to the pursuit of excellence. And we ask your special blessing upon Dr. Malcolm Gillis, its new president, and Mrs. Gillis. May your divine providence guide them and us on this occasion and as our common future unfolds.

And finally, help us to have a holy reverence before you. Grant that having the eyes of the mind opened to behold things invisible and unseen, we may in heart be inspired by your wisdom, in work upheld with your strength, and in the end be accepted by you as faithful in all for which we have been created. This we pray in your holy and sacred name. *AMEN*

After dessert and coffee were served, Kent Anderson, chair of the presidential search committee, introduced distinguished guests in the audience, including Norman and Gene Hackerman and the Gillis family. He also introduced the head table: his wife Linda; Charles and Anne Duncan; Bishop and Mrs. Payne; John Hope Franklin, James B. Duke Professor Emeritus of History at Duke University and a featured speaker at the next day's symposium; and Neal Lane, another featured speaker, former Rice provost, and newly confirmed director of the National Science Foundation.

The last person Mr. Anderson presented was Paul Hardin, chancellor of the University of North Carolina at Chapel Hill, formerly a professor of law at Duke, and later president of SMU and of Drew University. Dr. Hardin, a close friend of the new president and his wife, delivered an address entitled "One Great Exclamation Point After Another!!" which touched on the theme of the inaugural weekend: "A Lifetime of Learning." His speech is synopsized here:

The inauguration tomorrow of Malcolm Gillis as president of Rice University marks the official coming together of a very distinguished university and a brilliant, exuberant, new leader. Tonight's banquet heralds that important event. I am thrilled to be here with all of you and honored to have been asked by Malcolm to address in these next few minutes the role of the university president in the promotion of lifelong learning.

I have given this speech a strange title, "One Great Exclamation Point After Another!!" I have also chosen to quote an unusually long text for a fairly short speech. As you will see, my title comes from that text; but first, a word of introduction.

One of my own favorite lifelong learning commitments is to read everything I can find written by Dr. Lewis Thomas. That renowned cell biologist and medical administrator is also, in my opinion, one of the best writers of our generation. He makes his discipline delightfully accessible to the lay reader by simple but brilliantly expressive prose.

In his wonderful essay "On Embryology," a particularly joyful passage *sings* of the development of the human brain. Listen:

You start out as a single cell derived from the coupling of a sperm and an egg, this divides into two, then four, then eight, and so on, and at a certain stage there emerges a single cell which will have as all its progeny the human brain. The mere existence of that cell should be one of the great astonishments of the earth. People ought to be walking around all day, all through their waking hours, calling to each other in endless wonderment, talking of nothing except that cell....

One cell is switched on to become the whole trillion-cell, massive apparatus for thinking and imagining and, for that matter, being surprised. All the information needed for learning to read and write, playing the piano, arguing before senatorial subcommittees, walking across a street through traffic, or the marvelously human act of putting out one hand and leaning against a tree, is contained in that first cell. All of grammar, all syntax, all arithmetic, all music....

No one has the ghost of an idea how this works, and nothing else in life can ever be so puzzling. If anyone does succeed in explaining it, within my lifetime, I will charter a skywriting airplane, maybe a whole fleet of them, and send them aloft to write one great exclamation point after another, around the whole sky until all my money runs out.

I learned from Malcolm's secretary, after I sent in my title, with no explanation, to Malcolm, that he does not use exclamation points in his own excellent writing. Interestingly, neither does Lewis Thomas, as a rule. Apparently, Dr. Thomas felt he had to break the bounds of that normal constraint and tout the exclamation point in order to express adequately both the exhilaration he feels when scientific truth unfolds and the awe with which he ponders the mysteries of the human brain.

What then does an educator say to other educators about the importance of lifelong learning? Let's begin, not with practical or materialistic arguments, as powerful as they are, but by celebrating with Lewis Thomas and his whole fleet of skywriting airplanes the miracle and the amazing potential of the human intellect. How can we *not* promote lifelong learning? It is a matter of stewardship. To quote the apt motto of the United Negro College Fund, "A mind is a terrible thing to waste."

As I ponder our responsibility to promote lifelong learning, I think of three categories of that enterprise. The first is that host of courses that enable our continuing education students either to earn or retain professional certification or to enhance vocational skills.

A second category of lifelong learning for which we obviously have some responsibility is that array of continuing education courses not directly referable to professional certification or career enhancement but offered under the rubric of enrichment. As I examine our own offerings at UNC, I see Carolina Seminars on such timely subjects as "Access to Health Care," "Adoption," "The Future of the University in America," "Gender and History," and—here's a novel one for a state university with no theological school—"Forgiveness." Society clearly benefits when we reach out to nontraditional students with courses in the humanities and the other liberal arts. Family life and civic life are enriched when our citizens read good books, explore current issues, and study in some structured way what it means to be a human being living in society.

The third category of lifelong learning that comes to my mind may be the hardest for university presidents to promote, but it is surely the most important of the three categories in building and maintaining a successful, humane society. It is clearly the *largest* category in the number of persons engaged in it, but it will not be fully successful until it is universal. I speak now of individual, unsupervised lifelong learning, of self-improvement by reading, traveling, attending museums, concerts, and other cultural events, and listening to or watching the few informative and intellectually rewarding programs on radio and television.

I'm glad Malcolm assigned me this subject of lifelong learning and forced me to think about this third category of self-generated intellectual growth. I have now, for the first time, adverted to the obligation we educators have to promote this process aggressively—not only among undereducated persons—but among all people, including those of great intellectual gifts who may have so specialized that lifelong liberal learning has languished.

How can we presidents and chancellors promote what must finally be self-generated?

First, we can set a good example. As all of you do, I read. When I come across a gem of a book, an article, poem, or paragraph, I share it with one or several colleagues, which stimulates them to respond in kind.



PAUL HARDIN



JOHN HOPE FRANKLIN



ANNE O. KRUEGER



NEAL F. LANE



THE GILLIS FAMILY: SON-IN-LAW DAVID BYNUM, ELIZABETH GILLIS, SON STEPHEN, DAUGHTER NORA BYNUM, GILLIS, DAUGHTER HEATHER STREETS, AND SON-IN-LAW STEVE STREETS.

Second, we can be persistent advocates for the liberal arts in a world increasingly focused on professional education.

We can also show a keen interest in the scholarship of our own faculty colleagues. In that connection I have one personal story that may be worth telling. When I was president of Drew University, I had a faculty about one-fifteenth the size of our faculty in Chapel Hill. Therefore, relatively few faculty books were published each year. In one quarter, thirteen weeks in length, I set aside time to skim thirteen faculty-authored books, from anthropology to zoology, then interviewed each author for an hour for cable television. These colleagues could see me learning and could take legitimate credit for helping me learn. They followed my example and got interested in each other's books—or so I was assured.

Above all, we must cultivate a robust appetite for learning outside our own disciplines. I'm a lawyer and an English major, but I have a keen interest in science, particularly in the frontiers of biomedical research. I'm never afraid to ask a naive question, and I learn. I also have so much fun doing it that I hope I may infect others with unabashed curiosity.

In all the ways I have mentioned and in countless other ways each of you can suggest, let's do all we can to influence a sometimes materialistic generation of students on our campuses to postpone career absorption, hang on to humane idealism, and consider seriously the nonmaterial majesties of formal education and lifelong learning.

I have a couple of quotations I like to share with students. Malcolm heard me use them in a convocation of new graduate and professional students at Duke a year or so ago.

First, listen to Joseph Addison:

I consider an Human Soul without Education like Marble in the Quarry, which shows none of its inherent Beauties, till the Skill of the Polisher fetches out the Colours, makes the Surface shine, and discovers every ornamental Cloud, Spot and Vein that runs through the Body of it....

And give the last word to a little-known Irish barrister—Charles Phillips—in an eighteenth-century legal brief:

[Education] is a companion which no misfortune can depress, no climate destroy, no enemy alienate, no despotism enslave; at home a friend, abroad an introduction, in solitude a solace, in society an ornament, it chastens vice, it guides virtue, it gives at once a grace and government to genius. Without it, what is [a human being]? A splendid slave! A reasoning savage....

Malcolm, whether or not you use exclamation points in your writing, may you, figuratively, by your vigorous and inspirational leadership at Rice, skywrite one great exclamation point after another in the skies over Houston, over Texas, and beyond. May Rice University welcome your leadership and help you engender in all students who come your way vast respect for the human intellect and an unquenchable thirst for lifelong learning.

Kent Anderson responded:

Thank you, Paul, for those inspiring remarks. Approximately a year ago our search committee, at some of its initial meetings, tried to develop a list of qualifications or goals that

we wanted in a new president at Rice University. Let me share a few of those with you.

Among the first things, we wanted this person to have strong academic credentials. We wanted this person to break the bounds of the university. We wanted this person to have broad personal interests. We also wanted this person to be a proven administrator. And we wanted this person to be intellectually forthright and decisive. We looked at a lot of people. It would not be betraying the confidence to you this evening or betraying the confidence of our committee to say that our unanimous choice will be installed tomorrow as the sixth president of Rice University, and he has a few remarks for us this evening. Dr. Malcolm Gillis.

Dr. Gillis replied:

Thank you, Kent.

The last time I had an audience of eleven hundred was an Economics 10 class at Harvard in Memorial Auditorium. And I was conditioned with that audience size to speak for, yes, fifty minutes. But I'm going to break that habit tonight. Tomorrow is my day to speak.

Elizabeth and I are extremely proud to be members of this unique community. In this gem among centers of learning, we join a truly special group of faculty and students and staff and board members and alumni. We sense keenly the welcome that you have extended to us, and we feel very much enfolded in the warmth of the Rice family.

Tonight Elizabeth and I are acutely conscious of lifelong ties of kinship and of friendship. Our kin are here in great number. Our children, grandchildren, her mother, her sister, my brother, my aunt, our in-laws, cousins, uncles, aunts, nieces, nephews, all in both extended families have come to share in this occasion.

Here tonight are also dozens of our friends. They've come from the Atlantic and the Pacific coasts and the Gulf Coast. From Palo Alto and Los Angeles, from Lexington, Kentucky, and Lexington, Massachusetts. From Amherst and Boston and New York and Washington and Durham and Raleigh, North Carolina. They include our childhood friends from Mariana, Florida, and Chattanooga, Tennessee. And both our roommates from our undergraduate days. They include lasting friends we have made on college campuses beginning at Florida and then at Illinois, Harvard, Duke, and now Rice.

I must tell you that all of you have enriched our lives in more ways than you will ever know. We owe a very large debt of gratitude to the faculty and the staff and the alumni and the students on the inaugural committee for extending themselves well above and beyond the call of duty in organizing and overseeing and implementing the events of this weekend.

Bishop Payne closed the festivities with a benediction:

And now may the Lord bless us and keep us, the Lord make his face to shine upon us and be gracious unto us. May the Lord lift up the light of the divine countenance upon us, and give us peace, love, joy, and dedication, this night and evermore. *AMEN*

On Saturday between 10 A.M. and noon, more than 250 delegates representing institutions of higher learning and learned and professional societies registered at the Farnsworth Pavilion in the Ley Student Center. These included more than sixty university presidents or other senior administrators and representatives of two of

the oldest Western universities, Oxford and Cambridge. On hand to greet the delegates and to accompany them through the day's events were one hundred and ten undergraduate and graduate students specially picked and trained for this hospitality by Greg Marshall, director of University Relations.

Bone-chilling temperatures lowered by gusty winds discouraged guests from strolling around the campus; by noon President Gillis had determined that the installation ceremony later that afternoon would have to be held in Autry Court. Delegates, students, and guests of Malcolm and Elizabeth Gillis enjoyed a buffet lunch in the Rice Memorial Center and then adjourned to Alice Pratt Brown Hall's Stude Concert Hall for a symposium on "A Lifetime of Learning."

This event commenced with a musical selection, the first movement (moderato) from Paul Hindemith's *Morgenmusik* (1913), performed by members of the Shepherd School Brass Ensemble. Seated on the platform and wearing academic regalia were Mr. Duncan; President Gillis; interim provost James L. Kinsey (D. R. Bullard-Welch Foundation Professor of Science in the Department of Chemistry and dean of natural sciences); moderator Allen J. Matusow (William Gaines Twyman Professor of History and dean of humanities); the three speakers; the president of the alumni association, Lydia Asselin; and the male and female faculty members with longest continuous service in the university—Alan J. Chapman (Rice B.S.M.E. 1945, and the Harry S. Cameron Professor in Mechanical Engineering) and Katherine F. Drew (Rice B.A. 1944, M.A. 1945, and the Lynette S. Autry Professor of History).

After making a few introductory remarks, Dean Matusow introduced the first speaker, John Hope Franklin, whose address was entitled "No Crystal Stair."

It is indeed a signal honor to be here on this exciting occasion to participate in one of the events leading up to the inauguration of my dear friend Malcolm Gillis as president of Rice University. I would be less than candid if I did not admit that, while his coming here is a great day for Rice, it is a dark day for Duke and a sad day for me personally. I shall recover, perhaps more quickly than Duke, for I have not lost his friendship, which I shall always cherish, and I shall hold Malcolm and Elizabeth ever closer to me in the years ahead.

In his celebrated poem "Mother To Son," Langston Hughes has his protagonist make some salient observations and provide some sound advice about a lifetime of learning:

Well, son I'll tell you:
 Life for me ain't been no crystal stair
 It's had tacks in it,
 And splinters,
 And boards torn up,
 And places with no carpet on the floor—
 Bare,
 But all the time
 I've been a-climbin' on,

And reachin' landin's,
 And turnin' corners,
 And sometimes goin' in the dark
 Where there ain't been no light.
 So, boy, don't you turn back.
 Don't you set down on the steps
 'Cause you finds it kinder hard.
 Don't you fall now—
 For I'se still goin', honey,
 I'se still climbin'
 And life for me ain't been no crystal stair.

It was my good fortune as an undergraduate at Fisk to have heard Hughes recite this poem as he made his way from one historically black college to another, sharing his experiences and warning us of the hardships and obstacles ahead. I thought of his poem "Mother To Son" many times during my graduate student years, as I washed dishes for my dinner meal at the Pi Eta Club at Harvard or listened to the distinguished economic historian Edwin Francis Gay crack off-color, racist jokes even as he discussed trends in world economic development. At twenty years of age this was, for me, a dark moment when the moral outrage that I felt was not matched by my capacity to express it or, indeed, to weigh the consequences of any indignation that I could summon and articulate. Hughes' "Mother To Son" seemed so remote and ineffectual, unless I could translate it into the actual words that my own mother whispered to me as I boarded the train for Cambridge in 1935. "Son," she said, "do the very best that you can. The angels cannot do any better than that."

It was already quite clear that life would not be any crystal stair. And it became clearer as I suffered the humiliation of segregation and discrimination while doing research in various archives and libraries in such places as North Carolina and Louisiana. When such experiences of mine were recounted in a national weekly magazine a few years ago, a member of the staff of one of those institutions that had segregated me back in 1939 asked me to take exception to the magazine's assertion that I had been "shunted" off from the main reading room to a small makeshift study carrel. I reminded her that the event had been accurately reported, for I was indeed "shunted." I told her that my civility in "taking" the treatment had doubtless been misinterpreted as cheerful acquiescence, which was far from the actual case.

About the time that I thought I had learned how difficult it would be to pursue the life of the scholar in archives such as the one where I was "shunted" into a separate room, I learned a different kind of lesson. After working up enough courage to enter the Alabama archives, over which flew the flag of the Confederacy, I went to the desk in the main search room to request some materials. Upon their arrival I wondered where I should go to examine them. Conditioned by my previous experience, I waited for instructions. When no instructions were forthcoming, I decided to go to a quiet corner of the main search room. When I made the move toward the quiet corner, the elderly white woman attendant who had been observing my puzzlement called out to me that I should not sit over there. And, to my utter disbelief, she added, "That is the hottest part of the room. Sit over here at this table where the others are sitting and where the fan is. And besides, these people should meet you." Whereupon she interrupted the six or eight people seated at the large table and introduced me to each of them. For the next three weeks, they were my table companions and fellow sufferers in Alabama's July heat.

As I reflect on these experiences, the mother in Hughes' poem could have been referring to me when she said, "I'se been . . . reachin' landin's / And turnin' corners, / And sometimes goin' in the dark / Where there ain't been no light." Indeed, there was as yet very little light. Even so, I could see clearly enough the obstacles before me, for what I had learned at home and in my earlier education provided sufficient light at this important juncture.

In a lifetime of learning, the lessons come from all sorts of places, many of which are unexpected. There is, for example, the discovery of disbelief, even resentment, when an African-American historian undertakes to break the mold and write on a subject that crosses racial barriers. We had learned in graduate school that one could master a subject and write about it without being a member of the group about which one was writing. Did it make any difference that Marian Anderson was not German when she sang Schubert's "Death and the Maiden" or "Ave Maria"? Gibbon was not a Roman and was not present when he wrote his great work on the fall of the Roman Empire. Why, then, could I not study and write about the militancy of the Old South, if I immersed myself in the subject and brought to it a healthy curiosity but no preconceived notions born of partisanship or bias? Yet when I completed the study and sent it to my publisher, the referee wondered why the Harvard University Press would want to publish a "Negro's view" of the Old South. The director of the press patiently explained to the referee that they wanted a *scholar's* view of certain facets of life in the Old South and that they had found it in my work on the subject.

I learned a great deal from the exchange. For one thing, I learned that it was extremely difficult to overcome the almost universal stereotype that others had of an African-American scholar who was consumed with an agenda of special pleading. There was no special pleading in that book, called *The Militant South*, not even a discussion of the problem of race. I also discovered that the ambivalence of virtually all the white reviewers of that book was as painful as it was obvious. They were trying to come to terms with an African-American historian who dared to invade the sacred premises of so-called "mainstream history," and they were having a difficult time. But I also learned that not everyone was on the side of the disbelievers and that the integrity of honest and forthright scholarship had a power that, on occasion, could overcome even the stubbornness of the disbelievers. I would continue to maintain honesty and integrity in whatever I wrote, whether it was about the bellicosity of southern whites, the penchant of well-to-do whites for touring the North, or a certain disposition of house servants as well as field hands to run away whenever the opportunity presented itself.

As long as I could possibly do so, I resisted every temptation to be an educational administrator. The first temptation came early, when I was about thirty and in the midst of my second book, which would be called *From Slavery to Freedom*. I had gone from Durham, North Carolina, to Washington to work for several months without interruption and away from the five courses I regularly taught to some three hundred or more students. During this almost idyllic existence, I received a letter from the president of a Deep South historically black college telling me that several persons had strongly recommended me to be the next dean of his college. He seemed to be prepared to make me an offer and wanted to know if I was willing to be considered. This gave me the opportunity I needed to set forth my plans for the remainder of my life. In my letter to him I made it clear that the two great passions of my professional life were teaching and research, and that, while I was grateful to him for his consideration, I had no interest whatever in educational administration. Upon receipt of my letter he sent me a telegram telling me he would be in Washington two days later to explain the offer that he was prepared to make. For four hours he talked with me and told me what a wonderful opportunity it would be, with no students or classroom worries. When I told

him that I wanted such worries, he began to wonder, almost aloud, what kind of person I was. I could see that he was relieved that the negotiations would proceed no further, and he wished me good luck in what was clearly to be a life of drudgery, as far as he was concerned. I thanked him and cheerfully returned to my research and writing.

When the invitation came to chair the Department of History at Brooklyn College, however, I could not resist it. The department had been riven with strife for years, and virtually everyone agreed that it needed a leader from the outside. Meanwhile, I was developing a case of "cabin fever" by being at the largest and best predominantly black university that was regarded not only as the capstone of Negro education but the dead end for even the most distinguished African-American scholars, where people like Alain Locke, E. Franklin Frazier, Charles Drew, Sterling Brown, and Rayford Logan languished. The department at Brooklyn and I concluded that we were meant for each other, and I accepted the offer.

I learned how to push paper across the chairman's desk at Brooklyn College with such skill that even the deans wondered how I had acquired such experience. The various members of the department, all of them white, began to speak to each other, a rare phenomenon during the preceding decade, and the president wondered aloud how I had worked such magic. Department faculty began to seek my advice about the neighborhood in which they should live, how they should invest their money, and where they should send their son or daughter to college. I was tempted to conclude that I had, indeed, worked some magic, until the sobering realization came to me that I had been engaged in the very important task of confidence-building that had inspired my colleagues to express what they truly believed: that they should treat one another with civility and respect and that, in order to preserve their own rights, they must recognize the rights of others. Meanwhile, I had learned an important lesson in "people managing" but just enough to realize that I did not wish to manage anything larger than a department and that I would endure that only for a very limited time.

I have been lavishly honored by my fellow academicians by their electing me to the presidency of four national learned societies as well as the Society of Phi Beta Kappa, in their naming rooms and book prizes for me, and by establishing scholarships in my honor. Many books have been dedicated to me, and my students have published a volume of essays in my honor. This volume, *The Facts of Reconstruction*, was no ordinary festschrift. Each essayist took some problem in the area of Reconstruction with which I had dealt in my own writings. Using my treatment as a point of departure, the essayist then elaborated on the points I had made, evaluated the significance of what I had said or took exception to the conclusion I had drawn. One errs greatly if he or she does not realize that one's students are among the greatest teachers.

A student at Howard University reminded me in 1950, when I made a rather lengthy and difficult assignment, that his people were only eighty-five years out of slavery. I told him that I thought that was long enough to make the assignment entirely feasible. At Duke University a student upbraided me for making a particularly difficult assignment on the very day that the University of Virginia's basketball team was in town for a game. When I countered with an offer that we meet an hour earlier and then we could all go to the game from my home, where that session of the class met, all agreed. When, true to my word, I offered to end the class so that we would not be late for the game, not one of those twenty students was willing to end the class. It was a great lesson in the value of truly engaging the students. It was also the closest opportunity I have had to see the Blue Devils play, and the students made me miss it! To learn that the class meant that much to the students was a memorable expression of their esteem.

There is, however, a sobering side. If one adds the debits and credits, what is one left with? As a recent reviewer put it, after fifty years “only on rare occasions have [Franklin’s] numerous books and articles been discussed in the historiographic footnotes that scholars use to connect their own work with current trends of historical thought.” He added that my contribution had been “underrated, probably because of both condescension toward black scholars who work in what whites regard as mainstream history, and activist black scholars’ lack of interest in work that does not lend itself readily to contemporary ideological or cultural battles. Honoring him personally as a pioneer in academic integration was less threatening to white presumptions of control over the American past than taking his scholarly achievements seriously....” He also said that by defining myself as a historian of the South and devoting approximately equal attention to southerners of both races, “he has made an effort to abolish the color line in southern historical studies.” This, he concluded, has made his work “suspect to those with a stake in preserving historiographical segregation.”

That reviewer put into words a feeling that I never wanted to confront, and in doing so he forced me to acknowledge the fact that despite my efforts to do what I thought was required of a historian in order for him to be recognized by universally accepted standards, my work would be judged by standards based on stereotypes. Indeed, the diffidence of my colleagues confirmed to me that in the area that counted most—to be an unquestioned authority among my peers—life had been no crystal stair. This was an important lesson in a lifetime of learning. As I reflected on this particular example, I refused to focus on the obvious implications for me. Instead I began to consider the fact that in this life not many persons can boast of having climbed a crystal stair. There was Carter G. Woodson, an African American with a Harvard Ph.D., who could get no foundation support for his research despite the obvious merits of his case. There was Charles H. Wesley, whose Harvard professors refused to permit him to write a dissertation on the collapse of the Confederacy and who had to wait until he had received his Ph.D. and no longer needed their permission to write that seminal work.

One could look in almost any direction, at virtually any pursuit, and there would be numerous examples of men and women attempting to make their way up and having no crystal stair to make their task a bit easier. Some lacked the financial resources to pursue their studies; others worked on subjects whose sources yielded no fruitful results; and still others brought to their subject preconceived notions that their findings would not support. In the study and writing of history, in the administration of an educational institution, and, indeed, in virtually any area of human endeavor, the difficulties can mount to the point that there can be no easy way to success or even satisfaction.

If life has been no easy stair for some of us who have devoted our energies and lives to the teaching and writing of history, we can offer our commiserations to those in other areas who have had similar experiences. Meanwhile, we can take comfort not in knowing that there are fellow sufferers but in realizing that there is such a thing as a crystal stair. In our search for that place at the top of the stair, it involves beating down opposition, playing by the rules with honesty and integrity, and giving the task every resource and talent that we possess. We can make our way by “reachin’ landin’s, and turnin’ corners, and sometimes goin’ in the dark,” but we “don’t turn back” and “don’t sit down on the steps.” And we just keep on “climbin’” until we reach the top.

The second speaker was Anne O. Krueger, professor of economics at Stanford and formerly vice president of economics and research at the World Bank. Dr. Krueger reminisced on the subject of “Learning About Economic Development.”

I face a challenge unlike either of the other speakers because I have to talk about a lifetime of learning in economic development. One of the unfortunate facts is that President Gillis has been a part of that lifetime. He has been one of the contributors to the field, and he knows exactly what I’m talking about, which makes this a doubly challenging task.

It is, of course, a great honor to be here. And I’m very pleased to participate in my friend and colleague Malcolm’s installation ceremonies.

I want to focus on one of the themes Dean Matusow started out with, which is to say that what we learn as undergraduates, or what we know today, is not the way things will be.

I want to take you back to the world of the 1950s, or thereabouts, the period after World War II until the mid-1960s. Until that time in history, or at least 19th- and 20th-century history as most of us perceived it, there was thought to have been Europe and the lands of new settlement—Australia, New Zealand, the United States, Canada—on the one hand and people in poor countries on the other. Most of those poor countries, at least, were or had been colonies of some of the European powers.

One of the exciting things that happened after the Second World War was the emergence of a number of newly independent countries. I won’t go through them all, except to say that, of course, India, Pakistan, and others on the South Asian continent were very prominent.

It was a time of hope, and it was a time when there were great expectations, especially on the part of the developing countries.

Let us start then with the ideas from the 1940s and the 1950s. Many of them, as I said, are still true, but they have been nuanced or their understanding has deepened. First, an important insight, and one that is not wrong and certainly part of the truth, was the notion that poor countries were poor because they had very little capital. They had very little capital because there were very low savings rates. There were very low savings rates because, after all, people were poor so they couldn’t save. They had to consume to stay alive.

There were some other ideas to which the element of truth was somewhat less and where learning played a greater role. One such notion was put forward in an article by W. Arthur Lewis, who subsequently won the Nobel Prize for it, in which he argued—and it complemented the notion of the shortage of physical capital—that indeed there was a surplus of labor and that all that was necessary in developing countries was that people should be provided with jobs.

Another idea, not the same as Lewis’s, and again something that had to be greatly amended, had to do with the notion that by and large poor people, perhaps because they had not had a chance for education, perhaps because they were not literate, but for whatever set of reasons, were basically not aware of what was good for them.

A final aspect of this early kind of mindset, a set of ideas that are a very brief encapsulation of most of what I was taught in graduate school, was that in most developing countries there was a tendency to blame the international economy and colonialism for much of the difficulties that were now occurring and much of the low living standards.

At that time the debate went on endlessly, trying to absorb Lewis’s ideas, trying to sort all that out. For a number of reasons, India was very prominent in the experience and in the learning that many of us did following that time....

A key document and an exciting high-water mark in this period of what should we do with all this optimism about development happened with the formulation of the second Indian five-year plan. There it was assumed, not incorrectly, that the intentions of government officials and political leaders were basically to help people in society have better earning streams. It was assumed and stated that the role of government was to coordinate economic activity, to control private activity where market forces would go to excess, and in particular, to foster government ownership of the means of production and to develop factories owned and operated by government.

It was further thought, and set forth in the plan, that private savings would be low and that investment would have to be raised. This was quite consistent with the idea of the times, and therefore government should raise tax rates in order to increase community savings. It was further thought that India must industrialize. And it was thought that to do that there had to be protection against foreign competition for newly established industries within India, whether they were to be established in the private sector or the public sector. There were very ambitious objectives and very ambitious expenditure plans. Government was going to increase expenditures on health, education, agricultural extension, on roads, on transport, on heavy machine tool factories, on electricity. You name it.

Within about two years after the start of the second five-year plan, there was an Indian balance of payments crisis, as the foreign exchange needed to carry out these ambitious plans simply exceeded the available foreign exchange, where in fact the Indian planners had not thought about trying to expand that, probably because they thought they couldn't.

Analysis of what has been happening there and elsewhere has occupied most economists and many others concerned with development ever since....

(Now) let me cover some of the lessons that have gone into my lifetime of learning about development that came from many of my colleagues and scholars and people I admire in the field. First and perhaps most important is the notion that fiscal capital isn't everything. Human capital, the investment in man, is at least as important if not more so. Good education, investment in health, investment in man, is perhaps the most single most important thing one can do for development, although as everything else economists advocate, it has to be balanced because you can, perhaps, not have enough fiscal capital. But in terms of the early lessons of development this notion and this idea that you can neglect man and invest in machines and end up with slow growth and no increase and perhaps even decreases in productivity, was an early important insight.

Related to that, another early idea about development that was quickly overthrown, is that peasants are irrational. Indeed, a large body of evidence quickly was assembled to show that people do the best they can given the constraints they are under. Taken that way, one turns the problem of development around and sees not an economic machine fed from the center, in which you basically plug in a little more physical capital and something starts to chug along. But rather thousands upon thousands of people each doing the things that for them are most appropriate in light of their incentives. A revolution in thinking ends this lifetime of learning.

Now among the developing countries this common set of ideas that I mentioned earlier led to a fairly common set of policies among many of them. Personally, I spent a fair amount of time in Turkey and in India. Both countries are much alike in many regards.

In 1974, I was invited to Korea, which was a country still at that time poorer than Turkey. By that time, however, Korea was growing at a rate in excess of 10 percent a year, which is a doubling of living standards every seven years, which is phenomenal. Koreans took an alternative path. They did not follow the same economic policies. And in that sense

they constituted something of a social science laboratory for what was different.

My learning in Korea began when I got off the plane. I was greeted by my Korean host from the Korean Development Institute. And as I got off the plane his first question was, "What do you think? What are we doing wrong?" I said, "I just got here. I don't know, it looks to me like you're doing fine." "Please tell us what else should we do." And as I began over the next few days talking to people in various parts of the government and Korean economists, I began asking what I will call Indian-like questions—by what criteria do you decide to do A or B? How do you do this? To which they looked at me rather strangely and said, "We just look and see what makes sense."

What had they done?

They had decided they were not going to try and protect their economy from the rest of the world. They were going to develop a business community and entrepreneurs who were going to go out and who were going to compete. That was going to require a set of incentives, including an appropriate exchange rate, removal of barriers against imports, and a lot of other measures that would take too long to go into here. They gave incentives to individual producers to do the things that were socially valuable that would lead to this very rapid increase in living standards. At the same time that mechanism did something else that was very important. And that was it gave feedback, if you like, to everybody in society as to what performance was.

What were the lessons from this? Well, again, social science cannot move as rapidly as we would like. But gradually, it became obvious that it was very important that the Koreans had changed their trade orientation.

There was a second lesson that came to be learned, I think only ten years after the first one, and we're still learning.

There is absolutely no doubt there is no such thing, and probably never has been and never will be such a thing, as a perfect market. The bad news is there will never be such a thing as a perfect government. In fact, while one can talk about market failure in many of the developing countries, government failures in the sense of doing things that prevented a sensible reliance on incentives and successful economic growth was at least equally important. In many countries, fiscal deficits increased as governments kept trying to do things, and the system got more and more out of hand. Controls simultaneously built in resistance to change.

With all that, the next question arises, what is that logic of government, first, and second, how do you change economic policies? It turns out it is much more difficult to achieve decontrol than it is to control. Putting on controls at first is very simple; removing them is difficult.

As if that learning was not enough, life sometimes gets more complicated and the stairs get steeper, to use John Hope Franklin's analogy. We now have Eastern Europe and the countries of the former Soviet Union. With more to learn about what went wrong, it's obvious things went horribly wrong, it's obvious controls were there, but there are many more lessons. And worse yet, how do you transform societies such as those into healthier, more rapidly growing societies in which reasonable standards of living can be delivered?

I have no doubt that the role of trade and incentives and the view of the economy as many individual decision-makers responding to incentives, will remain. I do not think what we have learned is wrong. I still think that acquiring fiscal capital and human capital is important. But I think we will learn a great deal more, and perhaps some of the notions we now have will go. In the meantime, we have a lot of questions, and there is a lot more learning to be done.

What is the proper role of government? How do you harness efforts in the public sector to a set of incentives so that you will get delivery of the dams or the ports or the schools or whatever it is you want in that sector in ways that are consistent with development? What is the role of individual bureaucrats and how do you organize, and what do you want of the public sector in terms of your development?

We will learn more, and as we learn, discard older notions. Unfortunately, or fortunately, as we learn, more new questions will arise. Either way, the lifetime of learning continues.

After a brief intermission, Neal Lane concluded the formal speeches with a talk entitled "A Foundation for Learning."

I want to begin my remarks by congratulating Malcolm Gillis on his inauguration as the sixth president of Rice University. In many ways Rice is a model of success in higher education, and I can imagine no better experience as a faculty member or as an administrator than the time I spent at this outstanding university. As one who has had the benefits of over a quarter of a century at Rice, with its extraordinary students and a faculty that fully embraces the principles of excellence Rice embodies, I am delighted to be here as a part of this symposium on "A Lifetime of Learning."

I questioned, when I was asked to participate in this symposium, whether I was qualified to speak about a lifetime of learning, for various reasons, one being that I estimate that at best I've experienced only about half a lifetime of learning—so far. But I am very much looking forward to experiencing the second half. (I might add that the second half is starting to scoot along at a rather rapid pace due to some sort of strange time-compressing relativistic effect in the Washington area.)

The paths to a lifetime of learning are as varied as every one of our individual histories. Yet there are similarities that each of us recognizes, similarities that are reflected in the values that we as individuals share and in the institutions that society develops to enable a lifetime of learning to occur.

At the individual level, it is important that we lay the foundation early in our lives. This foundation does not result from the mere accumulation of fundamental facts, principles, or skills, important as such knowledge is. Rather, the foundation is built by fostering attitudes and values that make learning an active, dynamic, or fluid process. Perhaps the most important element that goes into developing this foundation is curiosity—that nagging desire every child possesses to discover the world and its mysteries, a kind of "curiosity bug."

But curiosity is not enough. Serious and sustained learning also requires self-discipline, to channel our inquisitiveness and to sustain our attention on the problems at hand, coupled with a sense of adventure, courage, and spirit of competition. Learning is enhanced, I believe, by the "thrill of the hunt," the willingness to take risks and the determination to persist in the face of setbacks. A foundation for learning that incorporates curiosity, self-discipline, courage, competitiveness, and tenacity, however, is still not complete without a personal commitment to try and improve the lives of fellow human beings and our planet.

This fluid foundation of fundamental knowledge, attitudes, and values provides us with the incentives—indeed, for many of us, the obsession—to continue learning throughout our lives. Those who fail to build an adequate foundation early in life may never catch the "learning bug" and may never know the joy of a lifetime of learning.

But individuals do not develop their foundations for learning *in vitro*, that is, in isolation from the living institutions of society. One of the most fundamental institutions critical for laying this foundation is the family.

Perhaps the institution we most closely associate with a lifetime of learning is the formal education system. Ideally, when a child enters school, curiosity is a growing, motivating force on which the foundation for a lifetime of learning can be constructed. In reality, for many children the rigid rules, rote learning, and insistence on conformity that are meant to provide a stable environment for learning in school conspire to kill the "curiosity bug." And once the curiosity bug is dead, there is little hope for the "learning bug."

Of course a child needs to build a sound base of knowledge and skills in an environment conducive to learning and self-discipline and respect for others. But not at the cost of stunting the desire to know more. A foundation for learning cannot consist simply of static knowledge and skills; it must have those other elements to keep it fluid, indeed to give it life.

My new position as director of the National Science Foundation (I was confirmed by the U.S. Senate and sworn in by Vice President Gore two weeks ago) comes with an appreciation that it is a foundation of a different sort. But the difference is more one of perception. NSF caught the "learning bug" at the time of its founding in 1950, and it has never lost it.

NSF's interest in education spans the expanse from preschool to undergraduate, technical and graduate school, and beyond to the continuing science and mathematics education of people throughout their lives. And the scale of NSF's effort reflects the high priority placed on science and mathematics education by the administration.

Essentially all of NSF's \$3 billion budget has to do with education and learning. But nearly one-fifth of that budget goes to the education and human resources directorate to support a wide array of programs aimed directly at improving mathematics and science education and lowering barriers to insure access to all Americans. But the challenge is great, and the barriers to change are high.

For many, especially among the young, learning is not thought of as a pleasurable activity—witness the eager anticipation of students for recess and summer vacations. (Of course, I don't recall the faculty being too disappointed at coming to the end of an academic year.) Until very recently, this lack of a pleasurable experience was not a great concern. The attitude was "whether you like it or not, you will learn because it's good for you."

For generations there has been a widely held view of the child's mind as a blank slate onto which we merely write the necessary knowledge. If the child failed to learn, perhaps we weren't bearing down on the chalk with sufficient force.

Now, thanks to a growing body of research linking the endeavors of psychologists, linguists, mathematicians, and educators, many of whom are supported by the NSF, we are developing a new understanding of the process of learning itself and how to use that understanding to improve instruction.

The centerpiece of this research is an understanding of intuition and how the preconceptions and misconceptions children bring to the classroom greatly affect their ability to learn.

Let me illustrate. In a recent study, kindergarten students were presented word problems, some of which required only simple arithmetic, while others required multistep use of multiplication and division. Children were encouraged to solve any way they could, using blocks, counters, fingers, toes, and so on.

In one problem they were asked how many cars are needed to take nineteen kids to the circus if each car can hold four children. This is a class of problems that students are tested on throughout their educational careers. It requires knowing that any remainder requires a whole additional unit—you can't have 4.75 cars, at least all of them operational.

When thirteen-year-olds were presented with a similarly constructed problem on recent National Assessment of Educational Progress exams—although with larger numbers—two-thirds did not get the correct answer. How did the kindergartners do? Nearly two-thirds got

it right. This finding perhaps demonstrates the importance of building the formal educational system on what the child brings to the setting, taking advantage of things like intuitive understanding and the natural curiosity I mentioned earlier.

Ironically, part of this predicament may result from our instructional techniques. This is often referred to as the “three-second problem”—the teacher asks questions, hands go up in three seconds or less, and the teacher calls on the person who is the fastest to respond.

As it turns out, this is not a very instructive process for life—how many times a day do we face a “three-second problem,” where our success or failure depends on answering an intellectual challenge very quickly? (Well, maybe in Washington.) Most real-world problem-solving requires many steps—carefully defining the problem, becoming aware of unstated assumptions, seeking additional information, anticipating the consequences of alternative paths, and checking with others for ideas or criticism—before finally responding. That’s how we work. But we haven’t been teaching that.

Our schools are changing to reflect this new awareness of the importance of process in learning. In many classrooms today, how one solves the problem is given more emphasis than the rapid response to a question.

These changes in educational philosophy take advantage of the natural urge to learn that children display at a very early age. When nurtured and allowed to flourish, the traits of curiosity, exploration, and the process of discovery become the motivating forces of all who contribute to society.

The NSF itself is a foundation for learning. It capitalizes on the obsession to learn more, an obsession that drives the brightest, most capable, and accomplished researchers in the nation to explore freely the remaining mysteries, the “how’s and why’s” of nature. In doing so, they discover new knowledge. Today that new knowledge and those educated people change the world. So, the NSF is a foundation for learning—but more than that, it is a foundation for change.

History has shown that new knowledge leads to benefits for society. No one disputes that. What we cannot know is on what scale. Some impacts are short-term, but many take decades. Some basic research pays off tomorrow; some strategic research doesn’t pay off at all. What is clear, however, is that unless the research is done, the benefits will not occur. And unless the research is done here, in this country, we will miss short-term opportunities, including, most important, the tangible educational benefits so critically important to our nation and its people today.

The NSF is understandably being asked if it can do even more to address the immediate needs of society. Perhaps it can, but the consequences must be carefully considered. Serious questions are being posed about the value of such a strong emphasis on basic research. Given the many needs of our nation—its competitive position in the world’s markets, threats to the environment, challenges in health care and in education and human resources—the NSF is being asked to consider some change in direction with more of a focus on national strategic needs.

Indeed, the NSF already invests substantially in a number of strategic research areas, including national strategic initiatives, ranging from high-performance computing and communication to global climate change and the environment and advanced manufacturing technology. The administration also has launched a “National Information Infrastructure Initiative,” which has the ambitious objective of enabling Americans to access all sorts of information and to communicate with one another using voice, video images, and data, anytime and anywhere. This initiative has an obvious application to education; and the NSF, a leading agency in high-performance computing and communication, will have an

important role to play as will Rice University, a leader in UPCC. These are broad interdisciplinary fields of science and engineering of particular strategic importance to the nation's short-term and long-term needs. And the role of the NSF is to support fundamental research in these areas. The question is: Should the NSF and the community of scientists and engineers it supports do more?

Last year, the National Science Board named a commission on the future of the National Science Foundation to examine these and other questions about the role of research in society. Not surprisingly, the commission stated its strong support of the importance of basic research at NSF. At the same time, it recognized the increasing societal benefits that derive from research. The Clinton-Gore administration has recognized the dynamic relationship between research and technology and the benefits they can provide to society. The administration envisions a more activist role for federal agencies in technology development but nevertheless recognizes the indispensable role of basic research. This connection was made explicit in the administration's report, "Technology for America's Economic Growth," which stated that "scientific advances are the wellspring of the technical innovations whose benefits are seen in economic growth, improved health care, and many other areas."

The widespread agreement on the value of basic research, however, does not answer the questions about how much we should invest to maintain the continual discovery of new knowledge or how we should allocate this investment among competing research disciplines. Nor does it address the difficult problems of how we maximize the practical benefits of new knowledge for our citizens and for the world.

Despite these complex problems, there are things that we can say with certainty regarding the future of the NSF:

- It must be responsive to the nation's scientists and engineers as they focus on new, challenging research and education opportunities;
- It must support research that fails to conform to existing disciplinary lines; and
- It must respond to new modes of investigation and involve strong partnerships with industry, states, other federal agencies, and other organizations, consistent with its fundamental mission—to insure progress in basic science and engineering in this nation.

The quality of a foundation for a lifetime of learning for the individual, much like that quality at Rice University or at the National Science Foundation, is measured by more than the discovery, accumulation, and transmittal of new knowledge, important as those are. Excellence for both individual and the larger institutions requires that they continuously foster curiosity, break down barriers to exploration and better understanding, reward intellectual honesty, courage, and persistence, and, most of all, seek to make lasting contributions to the larger society.

In closing, I wish to express my appreciation to Rice University for a quarter of a century of the joy of learning and for inviting me to participate in this celebration of its commitment to continued excellence. The educational institutions a society establishes and nurtures reflect the confidence that it places in a lifetime of learning—not only for the current generation but for generations yet to come. Rice University is a consummate example of the fulfillment of these high expectations. I am certain that President Gillis will add to the rich history and even richer future of Rice, and I wish him and all of you every success.

A lively question-and-answer session followed in which each panelist was asked several questions by members of the audience.

THE INSTALLATION CEREMONY

In Autry Court the Rice University Band, directed by Kenneth Dye, played a selection of music as the audience filled the upper stands. Precisely at 5:30 P.M., Associate Chief Marshal Dr. Kathleen S. Matthews (Harry C. Wiess and Olga Keith Wiess Professor of Biochemistry and chair of biochemistry and cell biology) ushered in the chief marshal, carrying the ceremonial mace, and the platform party. The chief marshal went to the front of the speakers' podium, wheeled, and faced the audience, while the remainder of the platform party stood at the back of the gym. Ten student representatives from each of the undergraduate colleges and the Graduate Student Association, led by their respective banner carriers, marched into seats on the east side of the room, followed by the faculty. Simultaneously, the board of governors and delegates processed to seats on the west side. When all the participants were in place, the platform party members took their places on the dais.

The Rice Chorale, directed by Thomas Jaber, sang the national anthem. Josephine E. Abercrombie, vice chair of the board of governors, then welcomed everyone to a ceremony that "incorporates traditions that go back to the initial academic convocation in 1912." Kirbyjon H. Caldwell, senior pastor of Windsor Village-St. John's United Methodist Churches, delivered the following invocation:

Almighty God, the supply and supplier of brilliance and illumination, thank you for blessing Rice University with the resourcefulness to make an indelibly divine difference throughout our local, regional, and national communities. As Rice University marches into the twenty-first century, grant President Gillis and the board of governors wisdom, wit, and discernment so that they may continue with distinguished vision and purpose. May the Rice University family's glorious history be exceeded only by its promising future.

In the name above all other names, we pray. *AMEN*

Ms. Abercrombie then introduced Philip Jackson Baugh, former chair of the board of trustees of Duke University; Neal Lane; Norman Hackerman, who represented the American Academy of Arts and Sciences; George Rupp, who represented Columbia University; and Elizabeth Gillis. "It is our hope and expectation," Abercrombie concluded, "that the distinguished tradition of leadership which has been among Rice's many blessings will be perpetuated in the forthcoming administration of Malcolm Gillis."

Hally B. W. Poindexter (chair of human performance and health sciences and cochair of the Inaugural Committee) introduced representatives from the five university constituencies who brought greetings and pledges of support for the new president and his administration.

Julia Kernan Farnham, president of the Student Association, spoke first:

Dr. Gillis, it is my pleasure to welcome you and your family to Rice University. You have already proven that you will be a great asset to our community.

In the last three months you have succeeded in showing us your vision for making Rice a center of excellence nationally and internationally. Your skills as a world-class economist and your contagious enthusiasm will help Rice expand its horizons as you shape exciting new projects like the Baker Institute, CITI, and ESSI. Let me assure you of the enthusiasm of the undergraduates as we watch our academic options multiply in front of us.

Your commitment to reforming and expanding the strong undergraduate curriculum to include more research shows a true concern for a life of learning. But, most important, you have made it abundantly clear that no one should consider himself a stranger in your presence. We are all here to learn from each other.

Again, allow me enthusiastically to welcome you to the Rice community on behalf of the student body. Please accept an open invitation to join us in discussion, debate, or dollar beer night at Willy's Pub.

Joseph A. Elias, president of the Graduate Student Association, welcomed Dr. Gillis "on behalf of the fourteen hundred graduate students at Rice."

I believe your administration is poised to take this opportunity to decide the future of Rice, and the graduate student body is willing to help you move this university forward.

We hope that you will lead Rice into the twenty-first century with a bold vision for what a university can achieve. Rice has a great foundation on which to build, with an outstanding reputation for undergraduate education, but its graduate program is no less distinguished. Your vision of what this university can become will be interpreted and implemented by all parts of the community working in concert. The graduate student body can and should be an integral part of that vision.

We have seen the increasing role that technology has played in our society. This is not an abstract cliché but is translated to the university level in a direct way by the work that graduate students do on a day-to-day basis. Our society also needs to be able to understand and manage itself and be able to communicate to the rest of the world. In that sense, and in an increasingly complex world, graduate students play a vital role in the development of the society and thus the university. The interaction of graduate and undergraduate students is another aspect in which we believe Rice can be strengthened by the integration of all parts of the university working toward a common set of goals. The potential is there, and now we look to you to coordinate and develop that potential.

Lydia Asselin, president of the Association of Rice Alumni, conveyed the sentiments of all graduates:

Dr. Gillis, on behalf of Rice University's thirty-five thousand alumni, I extend a heartfelt welcome to Rice. The Association of Rice Alumni offers you a large and sustaining volunteer base with strong ties to this university and a deep affection for it. You may rely on the members of the Alumni Association to carry Rice's message out across the country. We are eager to help you continue to expand Rice's reputation.

Since your arrival this past July, we have watched you interact with the students here. We look forward to your forming an equally strong bond with the alumni. Your willingness to listen to our suggestions for alumni communication and your eagerness to travel throughout the country to meet with Rice graduates encourages us for the future.

We have heard with great interest your ideas about continuing education. To think of Rice as a vehicle for "lifelong learning" presents an exciting prospect for the Alumni Association. Those who look back to Rice throughout their intellectual lives will find the bond grows stronger. If Rice instills your philosophy of "lifelong learning" in today's students, they cannot help but leave the campus as committed graduates. That connection can galvanize the Alumni Association. As this university and its extended family advance toward the year 2000, we must search for other, new ways to maintain the coalition between Rice and its alumni. The alumni will look to you to tell us how we can assist Rice to reach her goals. In turn, you can look to us for the traditional Rice candor and enthusiasm. We look forward to working alongside you to broaden Rice's interchange with all our graduates. This mutualism will lead the alumni to increased participation.

Once again, welcome—we are all excited to help you navigate Rice into the future.

Next, Katherine McKinin, cochair of the Staff Advisory Committee, spoke "on behalf of the university's nearly fifteen hundred staff members."

We heartily welcome you and your family to the Rice community. Though it may be presumptuous to claim to speak for the great diversity the staff of Rice represents, I know our feelings are unanimous in welcoming you to our midst. We are honored to have participated, for the first time in the institution's history, in the process that brought you here and enthusiastically endorse its result.

We, the staff of Rice, pledge to support you in the many programs that your great energy and reputation promise you will undertake and look forward to assisting in their realization. We know that your vision for the future of Rice will be one of excellence, not only in its primary educational and research endeavors but in every aspect of the university's business. We sincerely hope that you too will find satisfaction and sustenance at Rice, not only in the work to be done but in the strength of community that is built from the tasks we all fulfill. Again, our hearty welcome.

Finally, Stephen D. Baker, speaker of the faculty and acting chair of physics, delivered the faculty's "enthusiastic greeting."

President Gillis, in words familiar to you, *selamat datang!*

Many things contribute to making Rice University a wonderful place to be a faculty member. Among them are fiscal stability, prestige in the community, a beautiful campus, bright and eager students and lively student life, a humane atmosphere, and a tradition of cooperation between all segments of the institution. All these are worthy of your respect and support. But most important to the well-being of Rice University and its faculty, among whom we count you, is fidelity through teaching and scholarship to the essential commitment of the university, which is engraved in the Sallyport of Lovett Hall: "the advancement of letters, science, and art."

To the common task of fulfilling that commitment, under your presidential leadership, and to you, President Gillis, we pledge our best effort and good will.

The ceremony now reached its center. Mr. Duncan formally installed Dr. Gillis as president.

Malcolm Gillis, you have accepted the summons from the board of governors of William Marsh Rice University to serve as its sixth president.

Malcolm Gillis, your record of academic and public service has distinguished you among your peers. You have used the discipline of economics to improve lives and economies in many nations and to preserve their cultural and natural resources. You have brought Western and academic studies to bear on Eastern and Latin Third World cultures, and by your sensitivity and innovation you have implemented beneficial reforms.

Malcolm Gillis, you have also shown exemplary academic leadership, first as dean of the graduate school and vice provost for academic affairs and later as dean of the faculty of arts and sciences at Duke University. Commendably, you have sought cooperation among your colleagues in the faculty, staff, and student body. You have facilitated multicultural learning and sought opportunities to bring women and minorities into positions of authority within the institution.

Malcolm Gillis, your personal qualities have also recommended you to the board of governors. Your honesty and forthrightness, your vigor and professional commitment, your openness to dialogue and ideas all contribute to a healthy exchange of views as we determine the directions that will lead Rice into the next century.

Malcolm Gillis, as chair of the board of governors, I pledge our wholehearted encouragement and support as you assume the duties of sixth president of Rice University. Under your leadership, and with the dedicated cooperation of the alumni, undergraduate and graduate students, staff, and faculty who have here today pledged their support, we will work together to realize our purpose to provide a superior education for our students; to preserve, communicate, and extend knowledge; and to instill a skeptical yet tolerant and socially responsive character to all we teach and practice.

Malcolm Gillis, on behalf of the board of governors of William Marsh Rice University, and in the presence of this eminent company, I have the honor and the pleasure of confirming your appointment as president of the university and of admitting you to all the authority, powers, and privileges of that office. This presidential medal signifies your investiture.

While Mr. Duncan hung the silver medal, suspended by blue and gray silk ribbons, around the neck of the president, the pipers and drummers, at Dr. Gillis's request, played "Over the Sea to Skye," arranged by the dean of the Shepherd School of Music, Michael Hammond. Stuart Hall, the lead piper, is a Rice student; the other piper, Greg White, and the drummers, Chris Spisak and Tim Taft, are students at St. Thomas Episcopal School.

When the hearty clapping subsided, President Gillis delivered his address:

A university inauguration is much more than just a time for the installation of a new president. An inaugural is also an occasion for university-wide introspection, an opportunity to rededicate ourselves to ideals of learning, to reexamine the role of the university in society, and to redefine our missions of teaching and learning consistent both with founding principles and the requisites of change.

REDEDICATION

Rededication requires first an acknowledgment of debts. We, the students, faculty, staff, and alumni of Rice University, are profoundly indebted to those who have gone before us for providing us a seat at this sumptuous table of learning.

Our debt is greatest to the man who arrived in Texas virtually penniless in 1838, who died 93 years ago, whose ashes were deposited beneath the monument erected to his memory on a June day in 1930. On that day his nephew and namesake, William Marsh Rice, Jr., left us this succinct depiction of his uncle:

He lived a useful life, fought a good fight—and dying he left the fruits of his labor for the young women and young men who are to be the beneficiaries of The Rice Institute for all time.

Rededication also requires that we honor the intelligence, foresight, and business acumen shown by the trustees and governors during the past 103 years of leadership and financial stewardship to Rice. One result has been that the university's academic renown has grown almost apace with its endowment, which has increased two hundred and sixtyfold during the past ninety years. And from Captain Baker through George Brown to Charles Duncan, the leadership of our board has been exemplary. The high degree of stability and continuity of this body is reflected in the fact that Rice has had but eleven board chairs in its history.

Rededication also requires acknowledgment of the debt owed by Rice to its first five presidents. Founding president Edgar Odell Lovett and second president William Houston have since passed on. But I am deeply pleased to note that we have present today the two most recent Rice presidents, Norman Hackerman and George Rupp, and I bring you greetings from our third president, Kenneth Pitzer, whom I visited in Berkeley two weeks ago.

Each of the first five presidents has followed Lovett's advice to set no upper limits to Rice's educational endeavor. Each has led the university to successively higher levels of distinction. All have been true to another of President Lovett's most oft-quoted admonitions: Keep the numbers down and the quality up.

We do need to remain relatively small in student numbers, not only to help keep Rice quality affordable for those Mr. Rice called "determined youth of slender means." And we have kept the numbers down. Along with Caltech, we share the distinction of having the smallest enrollment of the most highly regarded research universities. We also need to remain lean enough to cope with the extremely fast-paced technological, economic, demographic, and cultural changes transforming our society as this eventful millennium draws to a close. In such a world our graduates may change *careers*, not jobs, five or six times. More than ever, we must prepare them for a *lifetime* of learning.

It is important that we rededicate ourselves to pursuit of another of Lovett's visions. In 1912, he asserted that Rice should become a university of the first rank, distinguished equally in the three great branches of knowledge: letters, science, and art.

The greatest need in the Southwest at the time was knowledge to exploit natural resources and to create industries. So Lovett rightly began by emphasizing science and engineering even as he recruited distinguished scholars to teach history, literature, philosophy, and architecture.

But as Houston changed, so did Rice. The city grew, and a new generation of community leaders emerged after World War II. These leaders sought to make Houston not only great in commerce and industry but also in the arts, music, and all of the humanities.

Rice University was one of the chosen vehicles for achieving greatness.

As a result, today our School of Humanities offers a rich curriculum taught by scholars of national eminence. Our School of Architecture is known far and wide for its emphasis in teaching and research, upon the role of architecture in fostering a more humane environment. With the James A. Baker III Institute for Public Policy, our School of Social Sciences is bidding to become a major national presence. The Jesse H. Jones Graduate School of Administration has provided important bridges to the business community in Houston and in Texas, with faculty who complement our strengths in several social sciences. The Shepherd School of Music, founded in 1976, now has magnificent concert halls; with its gifted faculty and students, it stands with the best music schools in the country. Meanwhile, as these developments transformed the campus, the national stature of the Wiess School of Natural Sciences and the George R. Brown School of Engineering has grown year by year. Our School of Continuing Studies is the largest university program of noncredit courses in the humanities, languages, and arts in all of Texas. Clearly, Rice has fulfilled Lovett's dream, attaining distinction in letters, science, and art.

From the beginning, quality has been the university's lodestar in teaching and scholarship. This university has always rejected the false choice between the pleasures of teaching and the privilege of scholarship.

We do not now, and have never, used the rigors of scholarship as excuses for less than high quality performance in teaching. In like fashion, we do not now, and have never, used the demands of teaching as excuses for less than rigorous, productive scholarship.

We are fundamentally committed to outstanding teaching. We back up that commitment with a recognition that enhancement of teaching often—but not always—requires additional financial resources. Within a few weeks, we will in fact announce some modest, but far from inconsequential, down payments on these needs.

We need also to rededicate ourselves to the idea that excellence in a university is indivisible. We must not forget that excellence is dependent not only upon the accomplishments of our faculty and students but also those of our staff. These are the members of the Rice community who recruit our students, provide our food, maintain our grounds, and support our scholarship. All of us owe them a full measure of respect and admiration.

Adherence to the highest ideals of our past leadership requires one more expression of rededication, or, more accurately said, reaffirmation. This university has cherished its tradition of civility for decades. In recognizing the importance of civility and courtesy in our academic community, we reaffirm that each individual has a right to his or her own dignity. The way we behave in our daily encounters with each other signals the value we put on each human being. Students in their interpersonal relationships; faculty and staff in their working relationships; our treatment of campus visitors and callers; all call for the respect embodied in what was once called courtesy and that we call civility.

On behalf of students, faculty, staff, and administration, I assert that this university aims to stand as an example to all of our society in respecting the dignity and worth of each and every member of this community. We also seek to be a model for uncommon courtesy for all who visit us. Harassment, discrimination, and incivility cannot survive in such a climate. At the same time, we reaffirm that our campus is a place for ideas, for free and vigorous discussion of ideas. This university has never sought to make ideas safe for students. Rather, it will always seek to make students safe for ideas.

REEXAMINATION

Carved on the cornerstone of the Physics Building is the phrase "science in the service of society." This is a reminder of our role in society generally and in higher education in particular. A reexamination of that role must proceed on the basis of our best judgment not only as to how our society *is* changing but also how we wish to help it change. But in so doing, we must take care to avoid the tides of fad and fashion that sometimes bedevil the academic world.

There are changes aplenty afoot. Rice's graduating class in 1997, and to an even greater extent the class of 2003, will be challenged by multiple currents of change, many of which are revolutionary. All of these currents need to be taken into account as we consider the shape of the Rice of the future, because they may call for significant changes in how we approach teaching and learning.

Among these changes are:

- I. Globalization of the Economy,
- II. Geopolitical Realignments,
- III. The Revolution in Electronics and Information Technology,
- IV. The Revolution in Molecular Sciences, and
- V. Demographic Shifts

Each of these stems from different sources, but they are not independent in their effects; they interact with one another, sometimes in baffling ways. I consider each in turn.

I. Globalization of the Economy

We are in the midst of an unprecedented increase in the economic interdependence of the world. Not a dozen years ago, economics as taught to most undergraduates and graduate students presented the U.S. as a "closed" economy, with little significance given to either international trade or finance. Now we know better. Global forces penetrate into virtually every aspect of economic life in every corner of every state.

Indicators of growing globalization of world industry and commerce are ubiquitous. By 1993, global transactions in foreign currency markets reached \$1 trillion *per day*.

Globalization has shifted the locus of economic power. By 1989, foreigners owned 15 percent of the U.S. capital stock. By 1992, of the fifty largest companies in the world, only twenty-three were American. And of the fifty largest banks, only six were American. The European Economic Community now comprises a market one-third larger than that of the U.S. New possibilities *and* problems for commercial *and* political relations exist with regard to newly reconfigured central and eastern Europe and south central Asia. In the eastern Pacific Rim, from Korea and Japan south to Malaysia and Indonesia, there is a market growing at close to \$4 billion *per week*. And sadly, few people understand that on a per capita basis, Mexico buys four times as much from the U.S. as does Japan.

II. Geopolitical Realignments

In addition to growing economic globalization, a geopolitical revolution across the continents clearly has been underway for at least a half decade. The underlying causes are complex indeed, but the principal precipitating factor was the implosion of communism in Europe beginning in 1988-89.

It is still unclear where this revolution may lead us. But it has already changed the political map of eastern and central Europe. It has led to new alliances and has unleashed long suppressed and dangerous nationalistic yearnings. It has brought threats of a different kind of armed conflict than that foreseen in the days when two superpowers reigned supreme. But this geopolitical shift has also opened up significant new opportunities, not

only for study abroad but for scholarship as well. Today there is a rapidly growing network of U.S. and central and east European scholars collaborating in mathematics, physics, literature, economics, sociology, chemistry, and biology.

III. The Revolution in Electronics and Information Technology

Accompanying this geopolitical transformation has been a revolution in electronics, communications, and information technology. Owing to the cumulative advances of a decade of truly astounding technical change in this technology, we face a future wherein knowledge and information will displace land and natural resources as capital. This revolution seems to gather new steam each fortnight, partly because it has become interlinked with the economic, molecular sciences, even the geopolitical revolutions. For example, consider the Internet, a loosely confederated network of electronic networks. Internet has grown fifty-four-fold in just the past five years, to nearly two million host computers. The \$1 trillion per day flow in international currency transactions runs almost entirely over electronic networks.

And it was partly in recognition of the erosion of the power of state intimidation accompanying the revolution in electronics and communications that led the Soviet leadership in the mid-1980s to rethink the future. As a result, they proclaimed *glasnost* and implemented *perestroika*, the effort to restructure gradually the Soviet Union along kinder, gentler lines over a twenty-year period. But the forces unleashed by the personal computer, e-mail and the fax proved implacable, too impatient to wait twenty years, and the Soviet Union is no more.

The ripple effects of the revolution in communications and information are changing the way we work, how we shop, how we interact—and how we learn.

Remember when *you* used to go *to* school? Within a very few years, many aspects of school will be coming to you, courtesy of marriages between computers, communication networks, and educational institutions. Once the networks are fully digital, you can send almost anything to anyone else: a recital by Pavarotti, a letter to your aunt, or, eventually, the *Encyclopædia Britannica*. As a result, opportunities for a lifelong education will be within the reach of everyone, at virtually zero cost.

The electronic/information revolution will have truly important implications for universities, because information is the prime raw material of our enterprise. Until very recently, the reputation of a university's library depended heavily upon the number of volumes owned. The revolution in information technology is rapidly changing this relationship. For the library of the future, access to library assets will not be solely dependent upon ownership of books. Students and faculty in Houston will be able to access, through electronic means, library collections in Tokyo, Montreal, Frankfurt, or Moscow. But notwithstanding the marvels of electronic access, books will remain an important component of libraries for a long time to come. We must have both.

IV. The Revolution in Molecular Sciences

For well over a decade now, we have witnessed a stunning pace of advance in cell and molecular biology and genetics. In the past five years, the rate of scientific progress in these fields has been accelerated by innovations in computational sciences, such that we are in the midst of yet another worldwide revolution: that in biomedical science. This revolution is increasingly linked to that in electronics and information technology.

The revolution in molecular sciences, however, does not end in the biomedical sphere. Within the past few years, an entirely new field has emerged, focusing upon matter at the molecular and atomic scale. This emerging field is called nanoscience: the study of structures of size between one and one thousand nanometers where a nanometer is one *billionth*



CHAIRMAN DUNCAN PLACES PRESIDENTIAL MEDAL ON MALCOLM GILLIS.

of a meter. From nanoscience will come nanotechnology, the ability to engineer matter on a nanometer scale for useful purposes. Nanotechnology is truly interdisciplinary in approach. It is the outgrowth of a synthesis between physics, chemistry, microelectronics and materials science, *and* biology. Potential applications of successful nanotechnology are staggering, not only in supercomputing but in medicine, optics, and molecular biology.

V. Demographic Shifts

Truly profound demographic shifts are underway in our society. First, there is the graying of America; the percentage of our population above age sixty-five will be rising rapidly. In 1991, this percentage was but 12.6 percent. Twenty-five years from now, nearly 17 percent of our citizens will be sixty-five or older. And by the year 2030, fully one-fifth of the population will be sixty-five or over.

Second, the composition of our society is changing rapidly in other ways as well. The combined Hispanic and African-American share in the total population in 1992 was 21.5 percent. By the year 2025, the population share for these two underrepresented minorities will reach 30 percent. And by the year 2050 they are projected to account for almost 37 percent of the U.S. population. Moreover, the share of Asian Americans in total population is expected to triple over the next fifty years, to 9 percent.

These demographic shifts will have truly far-reaching implications for our society and will present significant challenges and opportunities for our university, as I will note later.

REDEFINITION

It seems clear, then, that the future is not what it used to be. Accordingly, centers of learning that intend to remain centers of excellence will need continuously to redefine themselves. We will need to rethink *who* is educated, *how* they are educated, and *where*. As we consider these questions at Rice, we will need to be mindful of key elements of our heritage.

First, we will need to build upon the balance envisioned by Edgar Odell Lovett in Letters, Science, and Art.

Second, we will need to reaffirm our commitment to research aimed at discovering and understanding natural processes and fundamental social interactions. We must remind our supporters and critics in Congress and elsewhere that predictions of *which* areas of basic research will ultimately contribute to important new *applications* have proven impossible. As they say around Palo Alto, that is a strong reason why research programs at the great universities still need to allow for the incubation of unlabeled eggs.

Third, we will need to build upon acquired strengths. Not least of these at Rice has been the nurturing of strong interdisciplinary programs mounted by leading figures in traditional disciplines. These programs are highly regarded by outsiders. For example, long before I arrived at Rice I knew a great deal about the Rice Quantum Institute, the Biosciences and Bioengineering Institute, and the distinctive interdisciplinary programs in cultural anthropology and in cognitive sciences, to name just a few.

A fourth major strength is the residential college system, now in its fourth decade. This innovation has served the university well; we will continue to nurture and improve it.

As we attempt to navigate the major currents of change, we will need to stress continuity with our best traditions even as we remain alert to the new directions these changes may be leading us. Our primary focus now should be upon strategies for dealing with these currents in the years leading up to the twenty-first century. Some of the measures required to do this were set in motion only recently. Others will require realignment of existing efforts. And a small number will require new initiatives that must be supported by new funding in tighter financial times.



FORMER RICE PRESIDENTS GEORGE RUPP AND NORMAN HACKERMAN.

I group these undertakings under the following headings:

I. The Internationalization of Rice

II. Responding to the Revolutions in Computation, Information, and Molecular Technology

III. Coping with Fundamental Demographic Shifts

While we are better positioned than most universities to withstand the financial distresses affecting all of higher education, we are not by any means immune to these maladies. Considerable intellectual and financial resourcefulness and careful crafting of priorities will be required if we are to succeed in this era of hard financial constraints.

I. The Internationalization of Rice

The notion of internationalization is one of the most hackneyed expressions found on campuses. But it is not any less important for being trite. Properly understood, the need for the internationalization of Rice is compelling for three reasons. First, the university must expand its focus well beyond our own borders if we are to prepare our undergraduates for fruitful lives in an increasingly interdependent world. Second, we will find it progressively harder to compete with the rest of the world if we don't know much about the rest of the world. Finally, an international perspective enables us to understand better our own country, its culture, politics, and even spiritual life.

For all of these reasons, it is no exaggeration to say that for universities, the alternative to internationalization is irrelevance.

At least two major currents of change impel the need for the further internationalization of Rice: rapid globalization of national economies, including our own, and the worldwide revolution in information technology.

A major step in the internationalization of Rice was initiated last year with the formation of the James A. Baker III Institute for Public Policy. The Baker Institute is committed to building bridges between the world of ideas and the world of action in economic policy, foreign policy, science policy, and, ultimately, health policy. For that reason, the Baker Institute will bring together *faculty* from a variety of disciplines ranging from economics, political science, and sociology to history and ultimately to engineering and health sciences. It will also bring these scholars into collaboration with policymakers in the economic, political, and social spheres. The Baker Institute is a most fitting tribute to an indi-

vidual whose family is so strongly linked to the history of Rice and who has served with such distinction as secretary of the treasury and secretary of state.

Rice cannot afford to do all at once all the things required to become a truly international university. We must choose new international programs where our needs are most pressing and our advantages best suited. Latin American studies fits this description. The momentous changes occurring in Latin American economies will have extremely important implications for the evolution of our own economy over the next decade. The richness and diversity of Latin American literature, art, architecture, drama, and music has too long been known to too few in North America. But while we are enviably placed as an important window on all of Latin America and we do not lack gifted faculty with Latin American interests, we have virtually no coherent program in Latin American studies.

The Baker Institute for Public Policy will have Latin American issues as one of its foci, but the Baker Institute alone cannot carry the burden of a wider program also embracing the study of humanities in Latin America.

The case for a strong program in Latin American studies at Rice is not a new one. Almost thirty years ago the board of governors approved a ten-year plan that contained the following paragraph:

The proximity of Rice University to Mexico, and Houston's inevitable involvement with Latin American transportation, business, economics, and politics, makes it both natural and appropriate for the University to develop departmental as well as interdisciplinary programs having a bearing on Latin American cultural, scientific, and technological affairs. Moreover, this region's—and, indeed, this nation's—preoccupation with such affairs will increase in the decades ahead.

What was true three decades ago is doubly so today.

II. Responding to the Revolutions in Computation, Information, and Molecular Technology

We must also build upon our strengths in computation and information technology and in molecular sciences. In all these initiatives we intend to show how a relatively small university, through careful choices and strong support from alumni and friends, can play a leadership role out of all proportion to our size.

A. Computational Engineering

Scratch the surface of virtually any science or engineering discipline in 1993, from biology through mechanical engineering to computer science, physics, and geology. Do that, and you will usually find a thick undercoating of computational science: the study of how scientific investigation is conducted by computer through numerical simulations. These are highly complex and extremely expensive. Even more complex are simulations involving more than one physical discipline, particularly those involving engineering design.

This is where an important application of computational science enters the picture. At Rice, our faculty is poised to take on the long-term challenge of automating much of the engineering process. Computational engineering at Rice arises from our historical strengths in engineering and its more recent successes in parallel computation and related fields.

As a result, Rice is in an ideal position to capitalize on a relatively modest investment in faculty and facilities and seize the initiative in what should become a pivotal technological movement in the coming century.



THE BOARD OF GOVERNORS' JOSEPHINE ABERCROMBIE AND CHARLES DUNCAN WITH PRESIDENT GILLIS.

The centerpiece of this new program will be a new Computational Engineering building housing state-of-the-art laboratories to bring together faculty and students working in this new interdisciplinary field.

B. Electronic Studio

Another way that Rice is responding to revolutionary improvements in computing and networking is the creation of new teaching and research technologies. This includes the use of digital technology to create electronic studios. The electronic studio resembles an architect's studio but is much more. First, the electronic studio is not bound to a single place. Through high-speed networks, it is distributed across the campus so that teachers and students at different sites can simultaneously share it. Documents themselves are extended to include video and audio. Written theories become demonstrations, and models become simulations.

In the coming years, we must extend electronic studios to our classrooms, library, laboratories, and even to the rooms of our residential colleges. And as networking becomes more pervasive, we should exploit the same digital technologies to enfold alumni, institutions, companies, and individuals throughout the world in an expanded Rice community.

Eventually, facilities such as the electronic studio will make it possible for scholars to pursue research through the "collaboratory," a blend of the words collaboration and laboratory. A collaboratory is a center without walls using sophisticated software in which scholars can perform their research without regard to physical location: by interacting with colleagues, sharing data, and accessing information in digital laboratories.

C. Molecular Sciences

Rice is already a player in the revolution in molecular sciences. In the biomedical area, we will have a strong presence even though we do not have a medical school. We are, however, extremely fortunate in having truly distinguished medical schools and hospitals just across the street. Our own very strong departments in biochemistry and cell biology, chemistry, chemical engineering, and ecology and evolutionary biology can and do collaborate with these neighboring centers of excellence. We at Rice place a very high premium on expanded collaboration with Baylor College of Medicine, other institutions in the Texas Medical Center, the Houston Advanced Research Center, and all our sister institutions in Houston and in Texas.

We intend to be equally innovative and opportunistic in all the molecular sciences involved in nanotechnology. Already, fully one-fourth of our faculty in science and engineering is involved to some degree in research related to nanotechnology. Here again, Rice will build upon one of its strengths: interdisciplinary and multidisciplinary research. Indeed, it was in one of Rice's very successful interdisciplinary programs, the Rice Quantum Institute, that one of the marvels of nanoscience was first identified by Professor Rick Smalley and his colleagues. I refer of course to buckminsterfullerene, the third form of carbon.

Our efforts in nanotechnology are responsive not only to the revolution in electronic and information technology but to the ongoing biomedical revolution as well. Successful nanotechnology will enable computers to keep shrinking in size and cost. It can make solar cells immensely more efficient and solar power extremely cheap. With nanotechnology, we may also be able to build nanometer-sized mechanisms to destroy cancers and viruses that our immune systems miss.

Finally, mastery of nanotechnology holds out the promise of truly momentous economic implications. This is clearly the view of the Ministry of International Trade and Industry in Japan, which has already identified nanotechnology as a basic industrial technology for the twenty-first century.

III. Coping with Fundamental Demographic Shifts

Let me now turn to how our university might best respond to fundamental demographic shifts. That response should be strongly focused upon public education, kindergarten through high school, and continuing education to accommodate postcollege educational interests, particularly those of our growing number of vital senior citizens.

The graying of America together with the diverse educational interests of the “thirtysomething” generation in Houston furnishes us with opportunities to make continuing education at Rice a model for the entire world. Already our School of Continuing Studies serves more than eleven thousand enrollees per year. This program is ample testament to our commitment to lifelong learning.

Our ability to blaze new trails in continuing education is not independent of the progress that we are able to make in responding to the revolution in electronic and information technology, particularly in the electronic studio.

In any case, lifelong education at low costs will soon be available to those able to use the new technology. The down side is that many people may reach adulthood unable to avail themselves of this opportunity. This sobering note leads to the last and one of the most critical needs for redefinition in our university: expanded outreach from the university to our public schools.

The need for outreach is now critical.

A growing proportion of our young are attending public schools, kindergarten through high school, where the quality of instruction, particularly in science and math, is deteriorating year by year. As a result, increasing numbers of minority students are turning away from studies vital for fruitful lives in the coming century. Should this continue, a part of the blame should fall upon those “science-rich” educational institutions that have the capacity to help transform teaching, especially the teaching of science and math in the public schools. What are we if we are not a science-rich school?

If we are to be a responsive research university, then it is incumbent upon us to find ways to marshal our talents to respond to local governments seeking to reinvigorate public education, kindergarten through twelfth grade. In this way we can help our communities reclaim for our young the educational advantages that we enjoyed. And at the same time we can do our part to increase substantially the pipeline of underrepresented minorities with suitable training to enable them to contemplate a life of learning, particularly in science, mathematics, or engineering.

We have already made a promising start in outreach of this type. This has occurred even though Rice has no school of education. We do not need to establish one now. We merely need to follow the examples of energetic and concerned faculty who have already responded to calls for help. They have established, with limited resources, no less than six programs focused upon the needs of school districts in Texas, principally Houston. One of these programs has already attracted significant funding from the National Science Foundation. Virtually all of these six undertakings are focused upon improvement of mathematics and science education for underrepresented minorities.

The faculty who have led those programs have recognized that reform of public education, particularly in science and math, is a fundamental issue that can no longer be ignored by universities claiming to be among the nation’s finest. More of us—students, faculty, alumni—must join these faculty in turning our attention to ways in which we can provide incentives and structures to support and encourage faculty initiatives in elementary and secondary education in order to channel more of our best talent to improving the formative years from kindergarten through high school.

If there is a higher calling for this or any other university, I do not know what it could be. Because reaching out is what a university is all about: reaching out to the local community and the international community in a spirit of service, reaching out to each other in the spirit of civility and a common commitment to knowledge and understanding.

By reaching out, we in a real sense reach back to the vision of William Marsh Rice and Edgar Odell Lovett, a vision as lucid and powerful today as it was when Rice was founded.

And by reaching out, we reach forward as well, to our own vision of Rice—to an institution that is dynamic, open, diverse, and dedicated enough to meet the many challenges that we face together as a university, a community, and a nation as the new century draws near.

Students, faculty, staff, board members, alumni, friends of Rice University far and wide: we have much work to do and great things to accomplish; let us get on with it.

After acknowledging the audience's applause, President Gillis returned to his seat while the pipers and drummers played "Argyllshire Gathering."

To conclude the ceremony, William Murray, professor of music in the Shepherd School, sang the first stanza of "America the Beautiful," accompanied by the band. The Chorale then repeated the verse with the soloist and band. Marshal Patten called upon Rabbi Shaul Osadchey of Congregation Brith Shalom, president-elect of Interfaith Ministries for Greater Houston, to pronounce a benediction.

Mekor chayim—source of life, we are mindful of your world and our responsibility to it. Beyond the mighty oaks that encompass this university lie communities of people plagued by violence and pain and beset by hunger, poverty, disease, and despair. They seek the wisdom and knowledge to celebrate life and to rise above the daily struggles and hurdles.

Mekor chachmah—source of wisdom, bless this university with the resolve to exert itself as an influence for good that flows from this prestigious well of learning and understanding. Endow Malcolm Gillis, the newly installed president of Rice University, with the clarity of vision and strength of purpose to uplift this institution as an abode of academic excellence, as a sanctum of tolerance and respect for diversity, and as a beam of light that can penetrate the dark corners of societal injustice and inhumanity.

May this university of leaders—administrators, faculty, and students—continue to be leaders of change, wise and erudite visionaries of harmony and peace.

El chanun v'rachum—compassionate and merciful God, may the joy and celebration of this milestone occasion remain as a source of inspiration and dedication to pursue the higher ideals of this esteemed institution for many years to come.

Baruch ahtem behvoachem u'baruch ahtem betzeitchem.

Blessed are you in your coming and may you go forth in life with God's blessings.

AMEN

Then, led by the mace carrier and the pipers and drummers, the participants filed out of Astry Court to the spirited strains of "Scotland the Brave." A hastily devised wreath-laying concluded the ceremonies. The mace carrier, the greeters, and President Gillis marched down College Way, accompanied by the pipers and drummers playing a medley of "Scotland the Brave," "Cock o' the North," "Mairi's

Wedding,” and “Green Hills of Tyrol.” The procession, flanked by a growing crowd of well-wishers, turned north at Baker College to the center of the library arcade, and then proceeded east to the statue of William Marsh Rice in the middle of the Academic Quadrangle. There, in biting cold with a full moon rising over Lovett Hall, the musicians played “Amazing Grace” while the presidents of the Student Association and the Graduate Student Association laid a wreath on the tomb of the founder.

Hot and cold refreshments were served in the library arcade. Delegates and their student hosts returned to the Rice Memorial Center for a buffet. The family and friends of the Gillises retired to Cohen House for a celebratory dinner.

THE INAUGURAL FESTIVAL

On Sunday, students, staff, faculty, and the Gillis family enjoyed games and a buffet dinner organized by Joseph Elias, Julia Farnham, Ruth Parks, and Hally Beth Poindexter. At 2 P.M. on a brisk, sunny afternoon, the eight colleges, the GSA, and a faculty-staff team competed on a circuitous route along Alumni Drive in a “tea-trike” race using fragile and unstable “Big Wheels.” Two-year-old Ian Dunbar, son of Baker masters Robyn and Robert Dunbar, was the “iron man” of his college team, finishing multiple laps with an assist from his mother. Hanszen College won the race and the plaque with teabag rampant; the GSA riders, all of whom bore a large inflated Godzilla on their backs, came in second.

Other athletic competitions were a tug-of-war with Malcolm Gillis as anchor, a sack race in which one student walked on his hands, and a three-legged race in which Elizabeth Gillis and her granddaughter Jessica Streets hopped for the gold. Members of Amigos, one group sponsored by the Rice Student Volunteer Program (RSVP), and children from Ripley House carved pumpkins, while in the climactic event ten teams strove to outdo one another in a “Build-a-Gillis” contest, using identical kits of sticks, feathers, balloons, shaving cream, drinking straws, garbage bags, plastic ninepins, sunglasses, and photocopied portraits of Dr. Gillis. At the conclusion of an intense half-hour of creative frenzy, Malcolm and Elizabeth Gillis, accompanied by family members and vociferous spectators, judged the results: Wiess College was awarded the much-admired rubber chicken for first place.

Rat Ranch, a rock band, played throughout the afternoon. At 4 P.M. Harlon’s catered a barbecue dinner of chicken, beef, sausage, side dishes, and brownies, serving from ten lines set up under tents on the lawn between Herring Hall and the RMC. Nearly three thousand students came to dinner, along with staff, faculty, masters of the colleges, alumni, and friends of the university. As the sun set, diners dispersed to their colleges and homes for Halloween. In an unscheduled but widely predicted coda to the day, Club 13 trick-or-treaters clad only in shaving cream and shoes visited O’Connor House later that night. At this reception, as at all the others during the weekend, Malcolm Gillis displayed his geniality and appreciation of university traditions.



GILLIS LENDS HIS HAT TO A BUILD-A-GILLIS "LOOK-ALIKE." DIRECTOR OF STUDENT AFFAIRS SARAH NELSON CRAWFORD JOINS THE CATERING LINE FOR BARBECUE.



TEA-TRIKE AND A THREE-LEGGED RACE HIGHLIGHT FESTIVAL ACTIVITIES.

DELEGATES OF INSTITUTIONS OF HIGHER LEARNING

1187 University of Oxford	P.W.J. (Jim) Wood
13th Cent. University of Cambridge	John R.G. Bradfield
1551 Universidad Nacional Autonoma de Mexico	Victor M. Guerra-Ortiz
1583 University of Edinburgh	Walter M. Ross
1636 Harvard University	Paul Strohl
1693 College of William and Mary	Evelyn Thomas Nolen
1701 Yale University	Peter J. Petkas
1740 University of Pennsylvania	D. Michael Crow
1746 Princeton University	Eldon L. Hinds
1749 Washington and Lee University	J. Stephen Marks, III
1754 Columbia University	George Rupp
1764 Brown University	Frank M. Yatsu
1766 Rutgers University, The State University of New Jersey	Dirk Muyskens
1769 Dartmouth College	A. Duncan Gray, Jr.
1773 Dickinson College	Karen Turbyfill Taylor
1780 Transylvania University	Susan Hobbs Boone
1785 University of Georgia	M.L.J. (Jack) Crawford
1787 Franklin and Marshall College	Stanley J. Dudrick
1787 University of Pittsburgh	Donald V. Agafon
1791 University of Vermont	John E. Meyers
1793 Williams College	Jake Taylor
1794 Bowdoin College	Eileen Sheedy-Currie
1794 University of Tennessee	Donelson M. Leake
	Elise Oppmann
1795 Union College	Matthew C. Guilfoyle
1800 Middlebury College	Thomas C. Ryan
1809 Miami University	Imogen S. Papadopoulos
	Michael Papadopoulos
1817 University of Michigan	Ame Vennema
1819 Colgate University	James R. Sowers
1819 University of Virginia	Neal O. Wade
1821 Amherst College	Ralph E. Beals
1821 George Washington University	Sanford Dow
1822 Hobart and William Smith Colleges	Lindley Doran
1824 Kenyon College	Jack E. Titus, Sr.

1824	Rensselaer Polytechnic Institute	Roland W. Schmitt
1825	Centenary College of Louisiana	Dianna A. Redburn
1826	Case Western Reserve University	Alan E. Riedel
1827	University of Toronto	Vincent P. Collins
1830	University of Richmond	H. Clay Stallworth
1831	Denison University	Andrew S. Hanen
1831	New York University	Kenneth Eugene Lehrer
1831	Wesleyan University	John F. Woodhouse
1831	Xavier University	George A. Martin
1832	Wabash College	David Schneider
1833	Haverford College	Stephen Klineberg
1833	Kalamazoo College	Mary Gottshall Hodge
1833	Oberlin College	John B. Bryant
1833	Stephens College	Claire Chavanne Turner
1833	University of Delaware	James S. Dick
		Louise Lattomus Dick
1834	Tulane University	Harris A. Lichtenstein
1834	Wheaton College, Massachusetts	Frances Vinton Smith
1836	Emory University	Arthur R. Tarbox
1837	Davidson College	John A. Mawhinney, Jr.
1837	Marshall University	Amy L. Corron
1837	Mount Holyoke College	Marilyn Woodhouse
1839	Boston University	Doreen Roozee
1839	Virginia Military Institute	Edmund Root Strickler
1840	Southwestern University	Roy B. Shilling, Jr.
1841	Fordham University	Terrence G. McGreevy
1842	Hollins College	Jennifer Tuttle Arnold
1842	The Citadel, Military College of South Carolina	Terrance J. Ahearn
1842	University of Notre Dame	William L. Kreps
1843	College of the Holy Cross	Susan Power Fernandez
1845	Baylor University	Emily George Tinsley
1846	Beloit College	Spencer O. Friedman
1846	Grinnell College	Elaine Garofallou Rollins
1847	Earlham College	Robert S. Grundy
1847	Lawrence University	Michael P. Hammond
1848	Muhlenberg College	Daniel J. Petruzzi
1849	Austin College	H. Markley Crosswell, III
1850	Eastman School of Music, University of Rochester	Samuel Jones
1850	Illinois Wesleyan University	Diane Mancus
1850	University of Utah	Matthew W. Noall

1851	Florida State University	Donna Gillis
1851	Northwestern University	Mike Gavelek
1851	University of Minnesota, Twin Cities	Bruce W. Burton
1852	Mills College	Sybil Johnson Dray
1852	Saint Mary's University	Thomas L. Heaton
1852	Tufts University	Nijad Fares
1853	Cornell College	Herman Sieck
1853	University of Florida	Philip Bedient
1853	Washington University	Jeffrey E. Curtiss
1855	Bates College	Richard G. Martin
1855	Berea College	Raleigh F. Johnson, Jr.
1855	Eidgenossische Technische Hochschule Zurich	A. Kundig
1857	Saint John's University	Rene E. Darveux
1858	Iowa State University	Steven Louis Keiner
1858	University of the South	Logan D. Browning, Jr.
1859	Cooper Union	Oke W. Muller
1859	Valparaiso University	Victor A. Otte
1861	Massachusetts Institute of Technology	Daniel F. Flowers
1861	University of Washington	Bernard Aresu
1863	Boston College	Caroline Bean Garcia
1863	Kansas State University	Donna D. Kottwitz
1863	University of Massachusetts, Amherst	Jaye Randall Locke
1864	Swarthmore College	Catherine Abbott
1865	Cornell University	Edward F. Arps
1865	Lehigh University	David Steetle
1865	University of Kentucky	Daniel L. Sparks
1866	Carleton College	Donald R. Morrison
1866	University of Kansas	Michael Rasmussen
1867	New England Conservatory of Music	Robert Deutsch
1867	University of Illinois	David L. Ikenberry
1868	Colorado State University System	Don Swanson
1868	University of California, Berkeley	Yves Christian Angel
1869	Colorado School of Mines	Arthur S. Dickson
1869	Purdue University	Michael L. McGinty
1869	Trinity University	Ronald K. Calgaard
1869	Ursinus College	Timothy George Ochrán
1870	Syracuse University	Andrew E. Spector
1871	Smith College	Katherine Young McGhee
1871	University of Arkansas	Donald O. Pederson
1873	Lon Morris College	C. Chappell Temple

1873	Texas Christian University	Ted E. Klein, Jr.
1873	Vanderbilt University	Eugene H. Vaughn, Jr.
1875	Brigham Young University	Kenneth M. Anderson
1875	Wellesley College	Suzanne Kibler Morris
1876	Johns Hopkins University	Ralph S. O'Connor
1876	Prairie View A&M University	Flossie M. Byrd
1876	Texas A&M University	Clinton A. Phillips
1876	University of Colorado	Charles W. Howe
1878	Duquesne University	E. J. Conner
1878	Mississippi State University	Robert L. Beaty
1879	Radcliffe College	Jean Yeager
1881	Drake University	Joan Tarbox
1881	Tuskegee Institute	Ernest K. Shaw
1883	Our Lady of the Lake University of San Antonio	Elizabeth Anne Sueltenfuss, CDP
1884	Temple University	Howard L. Katz
1885	Bryn Mawr College	Margaret K. Klineberg
1885	Georgia Institute of Technology	Howard Tellepsen, Sr.
1885	Goucher College	Marjorie G. Horning
1885	Rollins College	Ward W. Pendleton
1885	Saint Edward's University	Patricia A. Hayes
1885	Stanford University	Thomas D. Barrow
1886	University of Wyoming	Michelle Bulawa
1887	Clark University	Carlos De Castro, Jr.
1887	Occidental College	Paul M. Frison
1887	Pratt Institute	Ruth Sine Rosenblatt Steve Rosenblatt
1889	Agnes Scott College	Christie Theriot Woodfin
1889	Barnard College	Caroline Strohl
1889	Clemson University	Frederick G. Wolfe
1889	East Texas State University	Susan Wood
1889	Howard Payne University	Freddie Cullins
1889	Slippery Rock University of Pennsylvania	Norma Isler
1890	University of North Texas	Caroline Minter
1891	California Institute of Technology	F. Curtis Michel
1891	Texas Lutheran College	Stanford O. Tostengard
1891	University of Chicago	Robert Bruce Weisman
1891	University of Texas Medical Branch, Galveston	Walter J. Meyer, III
1893	University of Montana	Stanton C. Lewis
1895	University of Texas, Arlington	Curtis Kayem

1898	Northeastern University	William P. Hayes
1899	Northern Arizona University	Mark A. Malinski
1900	Baylor College of Medicine	Bobby R. Alford
1900	Carnegie Mellon University	Bala Dharan
1901	Millikin University	Robert C. Hanna
1902	Berry College	Gloria McDermith Shatto
1905	University of California, Davis	Robert George Eby
1906	Abilene Christian University	Robert D. Hunter
1907	University of Redlands	Ann Halligan
1908	Southwestern Baptist Theological Seminary	John P. Newport
1909	Arkansas State University	Richard E. McCann
1911	Connecticut College	Jane S. Root
1911	Pine Manor College	Rosemary Ashley
		Sara Houstoun Lindsey
1911	Skidmore College	Levi V. Perry
1911	Southern Methodist University	A. Kenneth Pye
1912	Loyola University	Robert Young
1913	Colby College	Alanson R. Curtis Colby
1913	University of Texas, El Paso	Marion Lawrence Ellzey, Jr.
1918	Hebrew University of Jerusalem	Raphael D. Levine
1919	New School for Social Research	Bernard Goldberg
1919	University of California, Los Angeles	Kumar Patel
1922	Midwestern State University	David Robinson
1923	Lamar University	Victoria Price
1923	Schreiner College	Robert A. Cunningham
1923	South Texas College of Law	William L. Wilks
1923	Texas Tech University	Marion O. Hagler
1924	Duke University	Thomas A. Langford
1925	Bennington College	Lauryn A. Montgomery
1925	Claremont Graduate School	Emma B. Brossard
1925	University of Miami	Norman G. Einspruch
1926	Sarah Lawrence College	Lois Farfel Stark
1926	Scripps College	Barbara Freitag McPhee
1927	University of Houston	James H. Pickering
1941	University of Texas, M.D. Anderson Cancer Center	David J. Bachrach
1943	University of Texas Southwestern Medical Center, Dallas	John P. Perkins
1947	University of Saint Thomas	Joseph McFadden
1948	Brandeis University	J. Victor Samuels
1956	University of Dallas	Glen E. Thurow
1959	University of Texas Health Science Center, San Antonio	Erle K. Adrian

1960	Houston Baptist University	Don Looser
1960	San Jacinto College	Steven Horton
1961	CUNY Graduate School & University Center	Irving Kelter
1962	Texas A&M System	Robert D. Wells
1963	Pitzer College	Ella Eorinna Smith
1969	Universidad de Monterrey	Rafael Garza Mendoza
1971	Houston Community College System	Charles A. Green
1971	Texas A&M University, Galveston	William A. Seitz
1971	University of Texas, Tyler	Sandra Sayles-Cross
1972	University of Texas Health Science Center, Houston	M. David Low
1977	University of Houston System	B. Dell Felder

DELEGATES OF LEARNED AND PROFESSIONAL SOCIETIES AND OTHER INSTITUTIONS

1776	Phi Beta Kappa	Aubrey M. Farb
1780	American Academy of Arts and Sciences	Norman Hackerman
1852	American Society of Civil Engineers	John A. Focht, Jr.
1857	American Institute of Architects	Benjamin E. Brewer, Jr.
1863	National Academy of Sciences	Richard Errett Smalley
1869	American Philological Association	Kristine Wallace
1876	American Chemical Society	Julianne Elward-Berry
1879	Archaeological Institute of America	Walter Widrig
1881	American Association of University Women	Susan Lurie
1885	American Economic Association	Yhi-Min Ho
1886	Sigma Xi, the Scientific Research Society	Kumar N. Patel
1887	American Physiological Society	Stanley G. Schultz
1888	American Mathematical Society	John C. Polking
1888	American Society of Mechanical Engineers	Allen F. Rhodes
1888	Geological Society of America, Inc.	John B. Anderson
1899	American Astronomical Society	C. Robert O'Dell
1900	American Philosophical Association	William N. Nelson
1903	American Political Science Association	Keith E. Hamm
1905	American Sociological Association	Janet Saltzman Chafetz
1906	American Society for Biochemistry and Molecular Biology	Finn Wold
1907	Organization of American Historians	Harold M. Hyman
1908	American Institute of Chemical Engineers	William W. Akers
1915	American Association of University Professors	Stephen K. Huber
1915	Association of American Colleges	Ronald K. Calgaard
1916	American Accounting Association	Stephen A. Zeff
1916	Optical Society of America	Frank K. Tittel
1919	American Council of Learned Societies	Paula Sanders
1919	American Geophysical Union	Kevin Burke
1919	Institute of International Education	James N. Falk
1919	Sigma Delta Pi	J. Bernardo Perez
1921	Sigma Pi Sigma	Roland W. Schmitt
1924	Linguistic Society of America	Sydney M. Lamb
1934	Southern Historical Association	John B. Boles
1935	Institute of Mathematical Statistics	James R. Thompson

1936	Texas Institute of Letters	Bryan Woolley
1937	National Association of College Admissions Counselors	Gary R. Engelgau
1947	American Institute of Biological Sciences	Calvin Herbert Ward
1948	American Geological Institute	John J. Amoruso
1952	Society of Industrial and Applied Mathematics	John E. Dennis, Jr.
1952	Texas Independent College Fund	Robert F. Prather
1953	Tau Beta Pi Association	Charles Dalton
1957	Houston Philosophical Society	L. Rodney Rodgers
1964	National Academy of Engineering	William E. Gordon
1965	Independent Colleges and Universities in Texas, Inc.	Carol L. McDonald
1969	American Academy of Mechanics	Charles E. Taylor
1972	Chi Epsilon	James M. Symms
1974	Consortium on Financing Higher Education	Larry H. Litten
1976	National Humanities Center	Robert L. Patten

INSTITUTIONS SENDING LETTERS AND CERTIFICATES OF GREETING

Institution	Description
Amber University	certificate
American Academy of Arts and Sciences	certificate
American Academy of Arts and Sciences	letter
American Council on Education	letter
American Society for Legal History	certificate
Arizona State University	certificate
Armstrong State College	certificate
Association of American Universities	letter
Atlantic Philanthropic Service	letter
Berry College	certificate
Brandeis University	certificate
Brooklyn College (City University of New York)	certificate
Centre College	certificate
Centre College	letter
Clarkson University	certificate
Colorado School of Mines	certificate
Dartmouth College	certificate
DePaul University	letter
Drake University	certificate
Duke University	letter
Duke University Medical Center	letter
Emory University	letter
Erasmus Universiteit Rotterdam	letter
Florida State University	certificate
Florida Technical College	letter
Gakushuin University	letter
Gallaudet University	certificate
Grambling State University	certificate
Harvard Institute for International Studies	letter
Harvard University	letter
Hoover Institution	letter
Huston-Tillotson College	letter
Illinois Wesleyan University	certificate
Illinois Wesleyan University	letter

Indiana University	letter
Institut De France-Academie Des Sciences	letter
Institute for Advanced Study	letter
Jarvis Christian College	certificate
Kingdom of Saudi Arabia, Minister of Higher Education	letter
Lee College	certificate
Lewis and Clark College	certificate
Makerere University	certificate
McGill University	certificate
Memphis State University	certificate
Mercer University	letter
Michigan State University	certificate
Millsaps College	letter
Ministry of Finance, Republic of Indonesia	letter
Morehouse College	certificate
National Taiwan University	letter
National University of Singapore	certificate
North Dakota State University	letter
Northern Arizona University	certificate
Northern Illinois University	certificate
Northwest College	letter
Oberlin College	certificate
Ohio State University	letter
Pomona College	certificate
Providence College	letter
Radcliffe College	letter
Reed College	certificate
Rollins College	letter
Saint Louis University	certificate
Southwestern University	letter
Stephens College	certificate
Stetson University	certificate
Swiss Federal Institute of Technology, Zurich	certificate
Technische Universitat Munchen	letter
Temple University	letter
Texas Christian University	certificate
Universidad Complutense de Madrid	letter
Universidade de São Paulo	letter
Universita di Bologna	letter
Universitat de Barcelona	letter

Universitatis Iagellonicae	letter
Universiteit van Amsterdam	letter
University of Arizona	letter
University of California System	letter
University of California, Berkeley	certificate
University of California, Berkeley	letter
University of California, Santa Barbara	letter
University of Cambridge	letter
University of Connecticut	certificate
University of Florida	letter
University of Glasgow	letter
University of Hawaii	certificate
University of Houston, Clear Lake	letter
University of Houston, Clear Lake	certificate
University of Iowa	letter
University of Leeds	letter
University of London	certificate
University of Maryland	letter
University of Melbourne	letter
University of Mississippi	certificate
University of Missouri System	letter
University of Nebraska	letter
University of Nebraska	certificate
University of Nevada, Reno	certificate
University of New Hampshire	letter
University of New Mexico	certificate
University of Northern Colorado	certificate
University of Oregon	letter
University of Pennsylvania	certificate
University of Rhode Island	certificate
University of San Diego	letter
University of South Alabama	letter
University of South Florida	certificate
University of Southern California	letter
University of Southern California	certificate
University of Southern Mississippi	certificate
University of St. Thomas	certificate
University of St. Thomas	letter
University of the Philippines	certificate
University of Texas, Pan American	letter

University of Toronto	certificate
University of Toronto	card
University of Toronto	letter
University of Utah	letter
University of Utah	certificate
University of Virginia	certificate
University of Wisconsin, Green Bay	letter
University of Wisconsin, Madison	letter
Univerzita Karlova	letter
Vanderbilt University	certificate
Vassar College	certificate
Virginia Military Institute	certificate
Virginia Military Institute	letter
Washburn University of Topeka	letter
Wayne State University	certificate
Westminster College	certificate
Yale University	certificate

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Kathleen S. Matthews, Associate Chief Marshal

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Enrique V. Barrera	Rebecca Mersereau
Patricia Bixel	Ka-Yiu San
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Philip W. Davis	Julie M. Taylor
Stanley A. Dodds	Mark R. Wiesner
André W. Droxler	T. Jesse Wilde
Bruce R. Etnyre	William L. Wilson, Jr.
Stephen Hackney	Ricardo Yamal
Paul A. Harcombe	

