

Almanac

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Carruth Family Chair To Dr. Lazerson

Dr. Marvin Lazerson, the former dean of the Graduate School of Education who served as interim provost of the University in 1993-94, has been named to GSE's newest professorship, the Carruth Family Chair in Education.

In his six years as dean Dr. Lazerson oversaw the School's establishment of several term chairs for faculty and the endowment of its deanship as the Weiss chair. Under his leadership GSE became one of the most prominent voices in the field of urban education, with a wide range of collaborative programs with the Philadelphia Schools and building sponsored research from \$114,000 in 1988 to over \$7 million in 1992.

In October 1993 Dr. Lazerson announced that he would not return to the deanship, and Dr. Nancy Hornberger has continued as acting dean while awaiting the arrival of the new incumbent, Dr. Susan Fuhrman of Rutgers, whose appointment was confirmed by the Trustees Friday.

With his wife, Dr. Ursula Wagener, adjunct associate professor of education, Dr. Lazerson has been collaborating on a study of Title IX and Intercollegiate Athletics under a grant from the Annenberg Center for Public Policy.

One of the country's leading historians of American education, Dr. Lazerson is author or coauthor of numerous books and articles on educational history and educational policy, including *An Education of Value* (Cambridge University Press, 1985) and *American Education in the Twentieth Century* (Teachers College Press, Columbia, 1987.)

A Columbia alumnus who took his Ph.D. in
(continued next page)



Carruth Professor: Dr. Lazerson

Expanding the Guaranteed Mortgage Westward

The University has expanded its guaranteed mortgage program to enable more faculty and staff to purchase homes near campus—especially in West Philadelphia, where the boundary has been extended to Cobb's Creek, the "100% mortgage" raised to 105%, and a well-known local lender, Berean Federal Savings, added as a second lending source (in addition to Mellon Bank). A provision for refinancing mortgages, up to their original amount, has also been added.

At Friday's meeting of the Trustees Committee on Budget and Finance, D-L Wormley of the Treasurers' Office reviewed changes and expansion in the 35-year old plan, through which more than 1300 faculty and staff have bought houses since 1965. In that time there have been only two defaults, both of them "in workout" and one of nearly paid off now, she said in response to query from the Trustees. Penn's only exposure is to guarantee, she emphasized: lenders provide the capital, and along with other branches of the housing industry help provide materials and advisory services for prospective buyers.

Begun in the Harnwell administration, when Penn also built new dorms to become a residential institution, the Guaranteed Mortgage Program was introduced as an incentive to faculty and staff to live near campus, and at the same time as a way to revitalize a neighborhood of Victorian homes, parks and cultural amenities. Originally limited to University City (from the Schuylkill to 52nd Street), the program was expanded in the mid-1970s to include a portion of Center City.

The distribution of the current 114 loans, for an outstanding total of \$13,285,536 is:

Staff	47	(41%)
Faculty	60	(53%)
HUP employees	7	(6%)

There are 83 loans in West Philadelphia (39 staff, 44 faculty), making up \$89,300 of the total, and 31 in Center City (9 staff, 22 faculty).

Penn is now extending the western boundary to Cobbs Creek and the northwestern boundary to City Line Avenue, to include all of West Philadelphia. The program also covers property in Center City between South Street and Fairmount Avenue, west of 18th Street. Those buying homes east of the Schuylkill will continue to qualify for the 100% loan limit.

Applicants for the Guaranteed Mortgage must meet the underwriting criteria of Mellon Bank or Berean Federal Savings, and there is an upper limit of \$203,150 or the prevailing conforming Fannie Mae amount, Ms. Wormley said.

Other details will be in a comprehensive *Handbook of Mortgage Services* expected to be ready next month, or through individual counseling now taking place as the Office of the Treasurer sponsors *Mortgage Counseling Month*, through March 31. (To arrange for a one-on-one, confidential session with a representative of a lending

institution who will answer questions about the home buying process, repairing credit problems, refinancing option, or other mortgage-related questions, call Jean Crescenzo at 898-7256.) Two other upcoming events are *Mortgage Week*, April 17-21, 10 a.m.-4 p.m. (detailed information from individual lenders available in the Franklin Building lobby) and the annual *Spring Housing Fair* May 3 (details to be announced).

Ranking and Rating

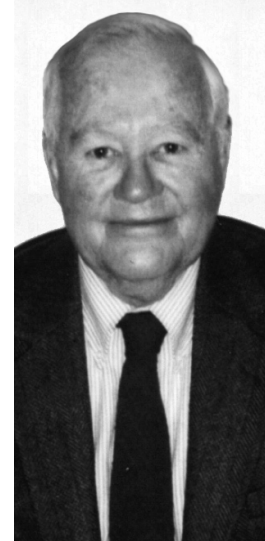
In the March 20 *U.S. News & World Report* rankings of graduate programs, most of the Penn programs listed are in the top ten or better, President Judith Rodin told the Trustees Friday. The magazine did reputational surveys of peers, in some cases adding hard data on admissions scores, F/S ratio, resources and other factors to rank 13 fields and 70+ specialties.



In another recent survey, Penn Physics was fifth in the nation in citations in published science papers. The other four, as tabulated by the Institute for Scientific Information, are Harvard, Princeton, Santa Barbara and Chicago.

Retiring in June: Chaplain Johnson

The Rev. Stanley E. Johnson, the University's Chaplain of 34 years, will retire on June 30, Provost Stanley Chodorow told the Trustees last week. A team will study the role of the chaplain in today's University in preparation for the search for a successor.
(continued next page)



Library Use Survey

During the week of March 27 through April 2 the University Libraries will be collecting data on library use. This information is very important for future planning and budgeting.

Library users may be asked to fill out a brief form and to provide demographic information when they ask questions at service desks. Users will also be asked to use the card-activated turnstiles in the Van Pelt-Dietrich Library. Thank you for your cooperation and patience.

— *Patrica Renfro, Director for Public Services, University Libraries*

Dr. Lazerson, continued from p. 1

American History from Harvard University, Dr. Lazerson taught at Harvard, Washington, Stanford and British Columbia before joining Penn.

The donors of his new chair are Houston-based alumni Allen ("Buddy") H. and Ethel Carruth—W'42 and Ed'43, respectively. Mrs. Carruth is a former member of GSE's Board of Overseers, and the couple's support extends to three of Penn's schools: a term chair at GSE in addition to the new one; a Dean's Scholarship at the School of Veterinary Medicine; a grant in support of the NASCA/Wharton Executive Management Education program.

Chaplain Johnson, continued from p. 1

"I've known Stanley Johnson since my undergraduate days at the University, and have the greatest respect for his wisdom and guidance," said President Judith Rodin. "He's provided compassionate counseling for Penn's students, faculty, and staff, and their families, over the years. The value of his service cannot be measured."

A familiar figure at Commencements, convocations and other formal ceremonies, the Rev. Johnson has often served as a troubleshooter and peacemaker behind the scenes, notably during Vietnam War protests as the new Guidelines on Open Expression were applied widely for the first time.

Later, when the admissions program was in a leadership crisis, President Meyerson asked him to serve temporarily as Dean of Admissions, and he did so from 1974 to 1977, reorganizing the unit and working with alumni and others to put into place some of the structures that led to increased quality and breadth of the undergraduate student body today. He has also served on numerous Council and University-wide committees during his tenure, including Community Relations, Student Affairs and Recreation and Intercollegiate Athletics.

A 1950 graduate of Princeton—where as a runner he got "a good look at the heels" of teammate Roger Bannister—Stanley Johnson did a year's graduate work at Penn before taking his bachelor of theology degree from the Divinity School of the Protestant Episcopal Church, in Philadelphia. Ordained a deacon in June 1954 and a priest in December that year, he was curate at the Church of St. Martin-in-the-Fields, Chestnut Hill from 1954-57, and then Episcopal chaplain at Vanderbilt before returning to Penn in 1961.

The Rev. Johnson has been a member of many community groups throughout his career, including the Corporation for College Work in the Episcopal Diocese of Pennsylvania; the Steering Committee of the Commission on Religion and a Free Society; the Alumni Association of the Philadelphia Divinity School, of which he was a president for three years; trustee of the Pennsylvania School for the Deaf; Examining Chaplain of the Episcopal Diocese of Pennsylvania; and the Neighborhood Resources Board of the West Philadelphia Corporation.

A delegate to the World Student Christian Federation Conference in Strasbourg in 1960, he was also Wilson Lecturer at Southern Methodist University in 1963.

The Johnsons plan to live in West Philadelphia and continue their participation in community and University activities. "That includes Penn football and basketball games," he said.

SENATE

From the Senate Office

Mail Ballot on Just Cause Revision

The Proposed Procedure Governing Sanctions Taken Against Members of the Faculty was published in *Almanac* March 14, 1995. It will be discussed at the Annual Meeting Wednesday, April 19, 1995. The meeting is scheduled from 3 to 5 p.m. in B-26 Stiteler Hall.

About two weeks after the annual meeting a mail ballot will be sent to all members of the standing faculty for a vote on the procedure. A simple majority will be required for approval.

From the Past Chair

On Government Support of Education

David Morse, in his discussion with University Council March 15, 1995 and in his article in *Almanac* February 28, 1995, described some of the consequences of proposed reductions in federal funding of education. If you believe, as I do, that the support of education should be a national priority and that the investments in the nation's colleges, universities and students are essential for the future intellectual strength and economic competitiveness of this country, now is the time to write to your Senators and to President Clinton to protest these proposed cuts.

Among the programs that will be affected are:

- *In-school interest subsidy on student loans.* It is proposed that the federal government no longer pay interest on federally-guaranteed loans for students while they are in college or graduate school. This will increase the indebtedness of undergraduates by 15-17% and the debt for graduate students who have also borrowed at the undergraduate level by as much as 40%. *Total budget cut: \$2 billion per year*
- *Campus-based student aid.* It is proposed that Supplemental Educational Opportunity Grants, College Work-Study, and Perkins Loans be eliminated. These programs provide aid to students nationally. *Total budget cut: \$1.3 billion per year*
- *Overhead recovery for university research.* It is proposed that indirect cost reimbursement be reduced by \$320 million/year. These funds support costs of infrastructure-construction, operations and maintenance of research facilities, and administrative support. *Total budget cut: \$320 million per year*
- *Funding for arts and humanities.* It is proposed that support for the NEA, NEH, and the Institute for Museum Services be cut 50%. *Total budget cut: \$183 million per year*

The cuts proposed above would reduce the federal budget by \$4 billion per year. I was asked in University Council to propose alternative cuts since there is a widespread belief that the federal budget deficit needs to be cut. Here are two suggestions:

- *Weapons spending.* Stop production of the B-2 Stealth bomber, the Milstar satellite system and the F-22 fighter. *Total budget savings: \$6 billion per year*
- *Raise gasoline taxes 25 cents per gallon.* *Total budget increase: \$5 billion per year*

There are sufficient federal revenues to support education and to cut the deficit. The question is simply one of priorities. Elected representatives are responsive to the priorities of their constituents. Witness the reluctance to touch Social Security. Let them know your priorities.

— *Gerald J. Porter, Past Chair*

Penn Reading Project: Suggestions by April 3

The Council of Undergraduate Deans has asked the Penn Reading Project planning group to work on next year's program, and we are asking all members of the Penn community for their suggestions for the 1995-96 Reading Project text. A copy of the chosen book will be sent to all of Penn's incoming, first-year undergraduates over the summer, and discussion meetings will be arranged with interested faculty session leaders during new student week.

Past selections have been:

The Bacchae of Euripides; the autobiographical *Narrative of the Life of Frederick Douglass, an American Slave*, Mary Shelley's *Frankenstein*, and, last year, Alan Lightman's *Einstein's Dreams*.

Faculty interested in leading discussion sections may wish to note in their calendars that the Council of Undergraduate Deans has scheduled the Reading Project to take place on *Sunday, September 3, 1995* from (roughly) about 3 to 5 p.m.

Please send your suggestions (by *April 3, 1995*) for the Reading Project text to:

Dr. Christopher Dennis
Director of Academic Programs in Residence
Suite 112, HRN, 3901 Locust Walk/6180
(Tel. 898-5551; FAX 573-2061).

You may also send in suggestions by e-mail to: Dennis@A1.relay.upenn.edu.

— *Office of Academic Programs in Residence*

Work in Progress: Nine Propositions on Undergraduate Education

I want to summarize the work of the Provost's Council on Undergraduate Education (PCUE) so far this semester and lay out the ideas we are considering for more general community discussion. I also want to identify the strategy we intend to follow to invite creative thinking about whether these ideas are sound and how they might be implemented.

PCUE began the work of this semester by hearing from the undergraduate deans of each of the four undergraduate schools (as well as the heads of CGS and Wharton Evening) about the nature of the undergraduate educational experience in each of the schools. We followed with more open-ended discussion about the skills that a well-educated student of the 21st century should possess, and the distinctive aspects of the character of the Penn undergraduate experience that would add special value to such a student. From these discussions we have derived a set of propositions, each of whose meaning and possibilities we would like to test by asking a small subcommittee of faculty, students and staff to consider it further. Each subcommittee will be chaired by a member of PCUE and will be formed from among the pools of nominees whose names have been forwarded to us. The subcommittees will begin their work immediately and should report back to PCUE within five weeks' time, by mid-April.

We also discussed a proposal from the Residential Faculty Council to develop a cluster of colleges to integrate academic and residential life. PCUE's discussion of these ideas made it clear that this issue is part of the larger question of how to structure the academic community in order to realize fully the educational character of the Penn undergraduate experience. We will be returning to this question in future meetings.

The subcommittees, the propositions they are being asked to consider, and the members of PCUE who have agreed to serve as chairs, are as follows:

(1) Subcommittee on scholarly and research engagement—

Robert Rescorla, (SAS), chair

The experience of every Penn undergraduate will include engagement with faculty and older students in a creative, scholarly endeavor that involves the student in the making or using of knowledge.

Sample strategies:

a) Every entering Penn student should be given the opportunity as a freshman to participate in an "intergenerational work team" or small group investigative experience or project with a faculty member, graduate students, and upper-division students.

b) Every student at the senior level should be involved in designing a research or other creative project or course to provide a capstone experience in making, using, or integrating knowledge.

(2) Subcommittee on access to faculty in the professional schools—Mary Naylor (Nursing), chair

Every undergraduate will have the opportunity to gain exposure, through an academic experience, to at least one of the professions taught on the Penn campus.

Sample strategies:

a) Every graduate/professional school will design and offer at least one course a year to undergraduates.

b) Every school will develop or participate in cross-school minor programs that will be available to students in the schools.

c) Every student will have the opportunity to participate in a summer cross-over program to explore the educational opportunities of another school.

(3) Subcommittee on community service/service learning—

Oscar Gandy (Annenberg), chair

Every student will have the opportunity of working in a small cohort or team with other students in at least one classroom or community service project focused on the city of Philadelphia.

(4) Subcommittee on other cultures' experiences—

Valarie Swain-Cade McCoullum (Acting VPUL), chair

Every undergraduate will be encouraged to participate in an academically based experience with a culture other than his or her own.

(5) Subcommittee on peer educational experiences—

Satya Patel (SCUE), chair

Every student should have the opportunity to engage with peers around educational issues outside of the classroom.

(6) Subcommittee on state-of-the-art technologies—

Gregory Farrington (SEAS), chair

Every student will be proficient in using state-of-the-art technologies to access knowledge and information. The undergraduate experience will use new information technologies to enable more effective teaching and learning, enhance personal interaction and communication, connect students with faculty and simplify administrative functions.

(7) Subcommittee on advising—

David Pope (SEAS), chair

In charting an intellectual path, every student will have access to faculty guidance and resources to make informed decisions about academic programs.

Sample strategies:

a) Every student will have access to a faculty mentor/advisor to provide the human interaction necessary in refining intellectual interests.

b) Students will have access to student information systems to provide answers to routine advising questions and modelling opportunities for "what-if" questions (see (8) below).

c) Every student will have the opportunity to communicate with at least one alumnus/a in a field that is of interest to them.

(8) Subcommittee on student information systems—

(Reports to Subcommittee on Advising) Jim Laing (Wharton), chair

Students will have access to student information systems to provide answers to routine advising questions and modelling opportunities for "what-if" questions.

(9) Subcommittee on admissions and publications—

Bruce Allen (Wharton), chair

The University's formulation of the character of the educational experience it offers should be clear and comprehensible to prospective students. Its admissions process should ensure that Penn reaches the students who are attracted to its educational experience.

Each subcommittee will be asked to consider the meaning of the proposition, whether it is feasible, how and in what ways it might be accomplished, and whether there are existing models we might examine or models we might create to test its feasibility. We hope that each subcommittee will reach out to members of the University community to gather creative ideas and examples. Comments can be directed to each subcommittee chair or to PCUE itself through either Kim Morrisson or Bob Lucid.

I should emphasize that these propositions reflect emergent thinking only. The subcommittees will think and engage the community creatively about them. In addition, over the next five weeks, PCUE staff will also be sponsoring a series of "conversations" with interested groups on campus to hear about how aspects of the Penn experience might already address some of the ideas reflected in these propositions.

I invite all members of the community to help us in these discussions and formulations. Comments can be sent to Office of the 21st Century Project on the Undergraduate Experience, 200 Houston Hall, Ext. 8-6504 or by e-mail to morrisn@pobox, rlucid@dept.english or PCUE@pobox.

— Stanley Chodorow

Tuition & Fees FY 1996: Lowest Increase in Memory

The Trustees Executive Committee approved Friday at the stated meeting a tuition increase figure of 4 percent—lower than any that could be traced in Penn's recent history, according to Benjamin Hoyle of the Resource Planning and Budget Office. (See last column in Table A.)

With it, the Trustees adopted an even lower rise in on-campus housing costs—zero.

At University Council on Wednesday, the Provost noted that in recent years Penn has kept its *tuition* increases the lowest in its peer group, but has annually lost that advantage, winding up in the midrange of total undergraduate cost tables, because of the highest increases in room and board costs. So, he said, the University set out this year to contain the cost of on-campus living and at the same time strive for fuller occupancy. At a second presentation last week, for the Trustees Committee on Budget and Finance on Friday, Mr. Hoyle and Vice President Carol Scheman amplified plans to bring more students back to campus housing for a variety of reasons including potential risk where landlords do not keep their property up to code.

Meanwhile, the projected freshman class size for fall is lower by 50 students and undergraduate financial aid rises 6.3 percent to continue need-blind admissions, according to background figures given out at both presentations.

Graduate tuition goes up 5.6 percent, and new admissions are again contained in order to continue the pattern of higher per capita support through fellowships and grants described by Vice Provost for Graduate Education Janice Madden at Council. Her report on the overall state of graduate education is scheduled for publication in a future issue.

Council: On Threats to Student Aid

At Council, there was vigorous discussion of reports on threatened cutbacks in Congress for the undergraduate assistance known as the Perkins funds and for Javits and Harris Fellowships that support graduate students.

The issue rose in three separate reports. One was by GAPSA's Bronwyn Beistle, who announced a letter-writing campaign and urged faculty, staff and students to pick up the GAPSA letter on Locust Walk this week, add a personal comment, and send it to Congressional leaders whose names the organization is furnishing.

In two other reports, Vice Provost Madden and Federal Relations' David Morse predicted deepening hardship not only from increased borrowings but requiring payment of interest while students are still in school.

Backing GAPSA's drive, Mr. Morse said "Congress hears from people like me all the time. You're the people they need to hear from."

A motion by Dr. Gerald Porter to have Council urge Congress to maintain the key student aid programs was tabled, after debate in which UA members challenged Dr. Porter and other supporters of student aid to specify alternatives in federal budget cuts. In a column this week on page 2, Dr. Porter suggests such alternatives.

Action(s) on ResNet Installation

At Council on March 15, a motion of the Communications Committee, with a friendly amendment by Dr. Gerald Porter, was endorsed, reading: "The University Council would like to

Table A. Tuition and Fees for Academic Year 1995-1996

	1992-93	1993-94	% Change	1994-95	% Change	1995-96	% Change
Total Undergraduate Charges	23,075	24,442	5.9%	25,822	5.6%	26,864	4.0%
Tuition	15,198	16,102	5.9%	17,020	5.7%	17,974	5.6%
General Fee	1,390	1,486	6.9%	1,586	6.7%	1,674	5.6%
Technology Fee	250	250	0.0%	250	0.0%	250	0.0%
Subtotal	1,640	1,736	5.9%	1,836	5.7%	1,924	4.8%
Tuition & Fees	16,838	17,838	5.9%	18,856	5.7%	19,898	5.5%
Average Residential Charges							
Room Rate	3,883	4,116	6.0%	4,342	5.5%	4,342	0.0%
ResNet Charge (Inclusive)	0	70		70	0.0%	70	0.0%
Subtotal, Room	3,883	4,116	6.0%	4,342	5.5%	4,342	0.0%
Dining Charge:							
15-meal Plan	2,354	2,488	5.7%	2,624	5.5%	2,624	0.0%
Graduate Tuition & Fee							
Tuition	16,546	17,530	5.9%	18,530	5.7%	19,568	5.6%
General Fee*	1,038	1,132	9.1%	1,210	6.9%	1,278	5.6%
Tuition & Fee	17,584	18,662	6.1%	19,740	5.8%	20,846	5.6%
Professional General Fee*	814	892	9.6%	954	6.9%	1,008	5.7%

* Graduate and Professional General Fees for 1995-96 reflect an increase of 5.6% and include previously approved surcharges totalling \$15 dedicated to graduate and professional student activities. Approved surcharges of \$6 were added in 1991-92 and \$3 in 1992-93, 1993-94, and 1994-95 with 1994-95 being the last year that this surcharge was added.

Toward a Budget for FY1996

As background to the motion on tuition and fees passed by the Trustees on Friday, the table at right was shown to Council and to the Trustees Committee on Budget and Finance. "Other Income" projections are based on the assumption that Commonwealth aid will be at the level called for in the Governor's preliminary message (\$35.47 million), as well as on projected recoveries of overhead expenditures on grants, endowment income, and unrestricted gifts and grants.

A rise in residences' projected income, despite the zero increase in room rents, is based on assumptions of fuller occupancy and more ResNet connections, the Provost and Mr. Hoyle explained.

The last section of the table shows financial aid from all sources, both restricted and unrestricted. At last week's meetings it was noted that some 90% of Penn's financial aid comes from unrestricted budgets and the rest from endowment, whereas at some peer institutions the ratio is reversed.

Provost Stanley Chodorow noted as a major difference in the preliminary budget presentation this year is that instead of a single salary-pool increase figure for faculty compensation, the deans have been given a breakdown—by current faculty, new positions and other salary-related items. At Council, Senate Chair Barbara Lowery queried the Provost on consultation with the faculty about salary increases.

**Table B. Highlights in the
Preliminary Budget for FY96**
(\$ in thousands)

Revenues	Projected FY 1995	Preliminary FY 1996	% Change
Undergrad Tuition	177,688	185,997	4.7%
Graduate Tuition	143,122	153,892	7.5%
Total Tuition	320,810	339,889	5.9%
Residences Income	30,268	30,529	0.9%
Dining Income	14,502	14,742	1.7%
Other Income	275,331	270,331	- 1.8%
Total Revenues	640,911	655,491	2.3%
Expenditures	Projected FY 1995	Preliminary FY 1996	% Change
Academic Salaries:			
• Continuing Faculty		3,182	3.5%
• Salary Market Issues		1,085	1.2%
• New Positions		1,802	2.0%
• Grant Loss/Leave Imbalance		639	0.7%
Total Academic Salary	92,020	98,728	7.3%
Non-Academic Salaries	122,542	126,497	3.2%
Benefits	62,677	66,419	6.0%
Total Compensation	277,239	291,644	5.2%
Current Exp & Equipment	153,223	149,635	- 2.3%
Total Student Aid	75,599	78,671	4.1%
University Overhead	134,661	139,855	3.9%
Total Expenditures	640,722	659,804	3.0%
Financial Aid	Projected FY 1995	Preliminary FY 1996	% Change
Total Undergrad Aid	44,343	47,140	6.3%
• Unrestricted	40,921	43,306	5.8%
• Endowment	2,207	2,544	15.3%
• Other	1,215	1,290	6.2%
Part-Time Undergrad Aid	1,527	1,612	5.6%

establish a general principle that access to communication and information services be provided to all members of the University community. As the first step towards this goal, the Council urges the expeditious completion of the ResNet project by September 1996."

Friday at the stated meeting of the Trustees

Executive Committee, a resolution was passed to fund Phase III of the Residential Communication Wiring Program, which extends ResNet to Van Pelt House, DuBois House, Stouffer Triangle, Hill House, and Mayer Hall. The resolution covers an estimated \$2,422,000 in costs, to be covered by project funding sources.

A substantive amendment to the Bylaws of Council was omitted when the revised bylaws were published "Of Record" in Almanac February 28, 1995. That omission, concerning the make-up of the Library Committee is corrected in this reprinting of the text.— Ed.

Revised Bylaws of the University Council

I. Scope and Purpose

The University Council of the University of Pennsylvania is a deliberative and broadly representative forum which exists to consider the activities of the University in all of its phases, with particular attention to the educational objectives of the University and those matters that affect the common interests of faculty, staff and students. It may recommend general policies and otherwise advise the president, the provost, and other officers of the University. It is authorized to initiate policy proposals as well as to express its judgment on those submitted to it by the administrative officers of the University and its various academic divisions. It is also empowered to request information through appropriate channels from any member of the University administration.

In its deliberative role, as it undertakes to reach collective decisions on policies to be initiated or evaluated for recommendation to officers of the University, an important function of the University Council is to transform the interests of its various constituency groups into forms congruent with the interest of the University as a whole. In such a case, a majority decision should be articulated in terms of the University's general welfare and constructed to advance this welfare. In its representative role, an important function of the University Council is to inform the officers of the University—as well as the citizens of the University at-large—of the range and strength of views held by members of the University community. In this case, the public expression of a heterogeneity of views, without their resolution into a majority agreement for action, may serve the University Council's advisory purpose most authentically, and especially so when such a diversity of discourse increases understanding among constituencies in addition to revealing the breadth of considered opinion as a ground for accommodation in subsequent University policy making.

II. Membership

1. Composition

The University Council shall be composed of administrative officers and elected representatives of the faculty, students, and staff as follows:

(a) Forty-five members of the Executive Committee of the Faculty Senate. The Faculty Senate shall insure that each faculty is represented and that at least three assistant professors serve on the Council. The members of the Faculty Senate Executive Committee who are members of the Council shall otherwise be chosen in accordance with the rules of the Faculty Senate.

(b) One full-time lecturer and one full-time member of the research faculty to be selected to serve two-year terms by vote of the Steering Committee from a slate consisting of the five lecturers, and the five members of the research faculty receiving the largest number of nominations by lecturers and members of the research faculty. If the Steering Committee receives fewer than five nominations for either group, additional nominations shall be solicited from the constituency representatives of the Senate Executive Committee.

(c) Eleven administrative officers, including the president, the provost, and nine members of the administration to be appointed annually by the president, at least five of whom shall be deans of faculties.

(d) Fifteen graduate and professional students elected as members of the Graduate and Professional Student Assembly. The Graduate and Professional Student Assembly shall insure that, to the extent possible, each school is represented. The members of the Graduate and Professional Student Assembly who are members of the Council shall otherwise be chosen in accordance with the rules of the Graduate and Professional Students Assembly.

(e) Fifteen undergraduate students elected as members of the Undergraduate Assembly. The Undergraduate Assembly shall insure that, to the

extent possible, each undergraduate school is represented. The members of Undergraduate Assembly who are members of the Council shall otherwise be chosen in accordance with the rules of the Undergraduate Assembly.

- (f) One elected representative of the Penn Professional Staff Assembly.
- (g) One elected representative of the Librarians Assembly.
- (h) One elected representative of the A-3 Assembly.

2. Election

Members of the Council who are to be chosen by election shall be selected no later than the end of the academic year proceeding the year of their membership in the Council, according to procedures established by their respective governing bodies, namely the Faculty Senate, the Graduate and Professional Student Assembly, the Undergraduate Nominations and Elections Committee, the Penn Professional Staff Assembly, the Librarians Assembly and the A-3 Assembly. Such elections shall be democratic in both principle and practice.

Each academic year the secretary shall distribute with the agenda for the last meeting a list of the members of the Council for the coming academic year.

3. Terms of Office

(a) The term of office of members of the Council other than the administrative officers, the chair, chair-elect and past chair of the Faculty Senate, the chair of Graduate and Professional Student Assembly, the chair of the Undergraduate Assembly, the full-time lecturer, and the full-time member of the research faculty shall be as specified in the rules of their respective governing bodies but in no case for more than four consecutive academic years.

(b) The terms of office of new members of the Council, other than members elected to fill vacancies, shall commence with the taking up of new business at the April meeting at which time the terms of office of retiring members of the Council shall conclude. In a case where the respective governing body is represented by its chair on the Council and/or the Steering Committee, and when it has chosen a new chair whose term of office begins before the end of the academic year, this new officer may accompany his or her predecessor (who will remain a member of the Council and/or Steering Committee until the Council year expires) and serve as an observer at meetings of the Council and/or the Steering Committee.

4. Vacancies

(a) Vacancies among elected representatives of the respective governing bodies shall be filled according to procedures of the body that elected them.

(b) Vacancies among administrative officers shall be filled by the president.

(c) Vacancies in the representatives of the full-time lecturer or the full-time member of the research faculty shall be filled by vote of the Steering Committee.

5. Duties

Membership on the Council requires a readiness to attend meetings of the Council regularly and to participate fully in its business, including the work of its committees. It is the continuous obligation of the members of the Council to report to the members of their constituencies about the discussions, decisions, and recommendations of the Council and to solicit questions and suggestions from them for presentation to the Council.

III. Positions

There shall be a presiding officer and moderator of the Council. There shall also be a parliamentarian and a secretary, who shall not be members of the Council.

(continued next page)

1. Presiding Officer and Moderator

The president of the University is the presiding officer of the Council. Each year, with the advice of the Steering Committee and the consent of the Council, the president shall appoint a moderator of the Council, who shall become a non-voting member of the Council. The president, or in the absence of the president, the provost, shall open each meeting and shall normally turn the conduct of the meeting over to the moderator.

An alternate appointed by the president shall conduct the meeting on a temporary basis in the absence of the moderator. If the moderator is absent from three meetings in an academic year, the president shall remove the moderator and, with the advice of the Steering Committee and the consent of the Council, appoint a new moderator to serve for the remainder of the academic year.

2. Parliamentarian

The president shall each year appoint a parliamentarian, in consultation with the Steering Committee. It is the parliamentarian's duty to advise the moderator and the presiding officer in the application of *Robert's Rule of Order Revised*, as modified by special rules of the Council.

3. Secretary

The secretary of the University or the secretary's designee shall be secretary of the Council. In addition to duties specified elsewhere in these bylaws, it is the duty of the secretary to issue notices of meetings of the Council, to record the minutes of such meetings and distribute them to its members, to receive communications for the Council, and to perform any other duties assigned by the presiding officer, the Steering Committee or the Council. The secretary shall supply members of the Council with a copy of these bylaws and appendices and amendments thereto, a current list of members of the Council, and a list of members of the Council's committees. The secretary of the Council shall serve as secretary of the Steering Committee.

4. Council staff

The Council shall be assisted by such staff of the University as is required in the conduct of its business. Staff personnel shall not be members of the Council. The secretary shall be aided by such additional persons as may be necessary.

IV. Meetings

1. Stated meetings

The normal schedule of the stated meetings of the Council shall be 4 p.m. on the third Wednesday of September, January, and March; on the second Wednesday of October, November, December, and February; and on the fourth Wednesday of April. Meetings shall continue no later than 6 p.m. unless extended by action by a majority of members in attendance. Stated meetings may be canceled and the times of stated meetings may be changed only by vote of the Steering Committee.

2. Special meetings

A special meeting shall be called whenever requested by the president or the provost, or by decision of the Steering Committee, or by petition of 25 percent of the total membership of the Council.

3. Agenda

Any member of the University may suggest questions or proposals for the consideration of the University Council by submitting them in writing to the Steering Committee addressed to the Chair of the Steering Committee, 15 College Hall. At any Council meeting, a member of the Council may propose and a majority of those voting may adopt an item for the agenda of the next meeting.

The Steering Committee, acting in response to the directions of the Council and the requests of the respective governing bodies, shall complete the agenda for each meeting of the Council. To the extent possible, the Steering Committee will indicate to the Council at each meeting the items it intends to include on the agenda of subsequent meetings.

Each meeting of the Council should accommodate committee reports and administrative reports, as well as discussion on issues that occur in the conduct of the Council's normal business or which arise unexpectedly during the year. The allocation of emphasis, which follows, for the agenda of each stated meeting is to indicate the various focuses of the course of the Council's work for the year. In addition, the specific designations of stated meetings for reports by University officials are provided to supplement and structure the usual and continuing accessibility of these officials to questioning by members of the Council.

(a) The agenda of the first (September) stated meeting of the Council in each academic year shall include the selection and ranking of issues to be dealt with during the academic year. The Steering Committee shall

present to the Council its recommendation with respect to such issues and the charging of committees, but the Council shall not be limited in its selection of issues or in the construction of committee charges to those recommended by the Steering Committee. To the extent possible, the Council shall select the central issues for primary focus during the year, and shall refer them to the relevant standing committees or special committees, with the expectation of reports in time for its deliberation before the end of the academic year. Each active Council committee shall be informed of the dates when such committee is to report to the Council.

(b) The agenda of the second (October) stated meeting of the Council in each academic year shall include extended reports by the president, the provost and other administrators selected by the president and provost or by the vote of the Council. These reports shall cover the state of the University, with particular attention to the activities of the University with respect to which significant problems are perceived. The president, provost and other administrators may be questioned on subjects other than those included in their reports. Adequate time shall be allotted for full and open discussion.

(c) The agenda of the third or fourth (November or December) stated meetings of the Council in each academic year shall incorporate an open forum to which all members of the University community are invited and during which any member of the University community can direct questions to the Council.

(d) The agenda of the fifth (January) stated meeting of the Council in each academic year shall include extended reports by the president, the provost and other administrators covering budgets and plans for the next academic year. Adequate time shall be allotted for full and open discussion of these reports.

(e) The agenda of the remaining (February, March, April) meetings shall include reports by Council committees and such other items as the Council may direct. The April meeting shall also include a preliminary discussion of issues to be dealt with in the coming academic year.

4. Notice of meetings and committee reports

Notices of all meetings, the agenda, and reports of committees that will be presented for action by the Council shall be distributed to members at least five days in advance of the meeting.

Resolutions on the agenda may come from any member of the Council. Resolutions shall be submitted to the Council through the Steering Committee, accompanied by the advice of the Steering Committee whenever the Steering Committee believes that its advice would be helpful. The Council, by affirmative vote of a majority of members attending a meeting in the presence of an actual quorum, may decide to act on a matter not on the agenda for action; otherwise no action, including a straw vote, may be taken.

5. Conduct of meetings

A majority of the full membership shall constitute an actual quorum. If at any time during a meeting an actual quorum has been established, a working quorum will be in effect until the stated time of adjournment. Except as otherwise specified in these bylaws, Council action may be concluded by a working quorum. Voting shall ordinarily be by voice or by show of hands, at the discretion of the moderator. A roll call vote shall be taken upon motion and the affirmative vote of one-fourth of the voting members present. Conduct of the meetings shall conform to the latest edition of *Robert's Rules of Order Revised*, as modified by these bylaws and by special rules of the Council. The Steering Committee, subject to directions of the Council, may formulate Rules of the Day, such as the designation of limitations on the time for the debate of specified issues, or on the time for each member to speak or respond, in the interest of distributing the opportunity to be heard. Changes in these rules shall require a majority vote of members attending, at a time when an actual quorum is present.

6. Persons entitled to attend

Meetings of the Council shall be open to members of the Council. Chairs of Council committees and subcommittees, non-Council members of the Senate Executive Committee, non-Council members of the Graduate and Professional Student Assembly Executive Committee and non-Council members of the Undergraduate Assembly Steering Committee may also attend as observers. Non-members of the Council, who are members of committees reporting to the Council at a particular meeting, or who are expressly invited by the secretary on designation by the Council, or by the Steering Committee, may attend a particular meeting and may be invited to participate in discussion, without vote. All Deans and Administrators (academic and non-academic) other than those appointed to membership in Council may attend Council as non-voting observers upon invitation of the president.

The chair of a reporting committee, if not a member of the Council,

shall be given all the privileges of membership, including the making of motions, but excluding voting, during the discussion.

Other members of the University community will be allowed to attend Council meetings if there is space in the Council room to accommodate them, and if they have asked to attend by signing a list maintained by the Secretary's Office prior to the meeting. All members of the University community may attend a Council meeting designated as a forum for open discussion by the University community.

Any non-member attending a meeting who, in the opinion of the moderator, does not preserve the decorum of the meeting will be required to leave.

Members of the Council and other members of the University authorized to speak at a meeting of the Council shall not be subject to inquiry or sanction, under any of the University's procedures for limiting unprotected expression, for any speech or debate during a meeting of the Council.

V. Steering Committee

1. Composition

The Steering Committee shall consist of the president of the University, the provost, the chair, the chair-elect and the past chair of the Faculty Senate, the chair of the Undergraduate Assembly and the chair of the Graduate and Professional Student Assembly. Drawn from the Council membership, there shall be in addition four faculty members, one graduate/professional student, and one undergraduate student elected by the respective governing bodies, as well as one member of the Penn Professional Staff Assembly, and one member of the A-3 Assembly, each elected by their representative assemblies. The chair of the Faculty Senate shall be the chair of the Steering Committee. In the absence of the chair, or at the request of the chair, the chair-elect shall serve as chair of the Steering Committee. The Council moderator will be an official observer at meetings of the Steering Committee. The secretary of the Council shall serve as secretary of the Steering Committee. Members of the Steering Committee may attend the meetings of Council committees.

2. Duties

(a) The Steering Committee, within the limits imposed under IV.3, above, and subject to the directions of the Council, shall prepare the agenda for meetings of the Council. Announcement of forthcoming Steering Committee meetings shall be published in *Almanac* and in the *Daily Pennsylvanian* reminding the University community of the appropriate means to request that items be placed on the agenda of the Council, as provided for in IV.3.

(b) The Steering Committee shall have cognizance of the rules of procedure of the Council and its committees, and may recommend from time to time such modifications of *Robert's Rules of Order Revised*, or special rules of procedure, as are deemed particularly appropriate for the efficacious consideration of proposals by the Council.

(c) Resolutions that committees elect to place on the Council agenda should be submitted to the Council through the Steering Committee. The Steering Committee shall promptly forward all such resolutions to the Council. The Steering Committee shall also inform the Council of its decisions concerning the inclusion of such resolutions on the agenda of a Council meeting. The Steering Committee may give its advice concerning such resolutions to the Council whenever the Steering Committee believes that its advice would be helpful.

(d) The Steering Committee shall publish an annual report to the University community. This report, to be published early in the academic year, shall include a review of the previous year's Council deliberations (highlighting both significant discussions and the formal votes taken on matters of substance) and a survey of major issues to be taken up by the Council during the coming year.

3. Vacancies

Vacancies among the elected members of the Steering Committee shall be filled by election of the respective governing and elective bodies affected by the vacancies, following the rules of those bodies.

VI. Committees

The committees governed by these bylaws are the standing committees of the Council, special committees created by the Council from time to time, and the independent committees.

Members of all standing committees with the exception of the Committee on Research and the independent committees with the exception of the Committee on Open Expression and the Academic Planning and Budget Committee shall be chosen in the numbers required for each committee according to procedures established by the respective governing bodies as

listed in II.2. The term of office for members of committees shall, unless otherwise specified in the charges, be one year.

Any member of the University may be asked to serve on committees of the University Council and only members of the University shall be eligible for membership on the committees. All committee members are eligible for reappointment. Members may be reappointed, if mutually agreeable, for a maximum of four years total consecutive service. To provide continuity, chairs-elect may be designated.

Each committee should normally include at least one faculty member, one undergraduate student and one graduate student who, to the extent possible, should be members of the Council. The members of committees shall be selected by the respective governing and selective bodies in the numbers required for each committee.

The memberships specified in the committee charges which follow constitute the normal makeup of each committee. Changes can be made only by action of the Council through amendments to the bylaws, as provided for in section VII.

1. Standing Committees

The standing committees of the Council are those whose activities are directly instrumental in advancing the work of the Council. The president, provost, chair and chair-elect of the Faculty Senate, chair of the Graduate and Professional Student Assembly, and chair of the Undergraduate Assembly (or their designees) shall be entitled to attend meetings of all standing committees of the Council and to participate in the discussions.

In cases where a committee has an oversight or advisory function to a branch or department of the University administration, in general the administrators who serve as ex officio members should serve primarily as liaison and resource persons to support the work of the committee under the direction of its chair and members, and accordingly should not vote. Consistent with this principle, any such administrator(s) shall be designated as a non-voting ex officio member of each committee (except where noted below).

Any standing committee shall have the power to delegate specific tasks or functions to subcommittees whose members shall include one or more members of the parent committee. Unless specifically authorized, no subcommittee report or recommendations shall be represented to be a report or recommendation of the full committee without the express approval of the full committee as indicated by a majority vote at a regular meeting of the full committee.

Reports and communications by committees to the Council shall be submitted to the Council through the Steering Committee for inclusion in the agenda and publication in *Almanac*. The Steering Committee shall promptly forward all such reports and communications to the Council, and it shall monitor committee activities and, as necessary, report on these activities to the Council.

a. *Committee on Admissions and Financial Aid.* The Committee on Admissions and Financial Aid shall have cognizance over matters of recruitment, admissions, and financial aid that concern the University as a whole and that are not the specific responsibility of individual faculties. The Committee shall have the authority to carry out studies on existing recruitment and admissions procedures and their relationships with existing policies on admissions and financial aid, and shall be responsible for recommending changes in policy to the Council. The Committee may invite deans, associate deans and others responsible for undergraduate and graduate/professional recruitment, admissions, and financial aid to its meetings to provide information and shall be available to consult with these persons on interpretation of existing policy and application of policy to specific cases. The Committee shall consist of eight faculty members, one A-1 staff member, three graduate/professional, and three undergraduates students. The dean of each undergraduate school shall appoint one ex officio, non-voting representative to the Committee. The vice provost for University life, dean of admissions, director of the Penn Plan, and director of student financial aid are non-voting ex officio members.

b. *Bookstore Committee.* The Bookstore Committee considers the purposes of a University bookstore and advises the Council and the director of the University bookstore on policies, development, and operations. The Committee shall consist of six faculty members, three A-1 staff members, one A-3 staff member, two graduate/professional students, and two undergraduates. The director of the University bookstore is a non-voting ex officio member.

c. *Committee on Committees.* The Committee on Committees, on behalf of the Steering Committee, will monitor all Council standing and ad hoc committees to assess their continuing usefulness. It will familiarize

itself with the work and performance of committees and present recommendations to the Steering Committee for such changes in the structure, charges and number of members as it thinks appropriate.

The Committee on Committees will receive nominations from the various constituencies for membership on the standing committees with the exception of the Committee on Research and the independent committees with the exception of the Committee on Open Expression and the Academic Planning and Budget Committee. It will transmit those nominations together with recommendations for committee chairs to the Steering Committee.

The Committee will consist of six faculty members including the chair-elect of the Faculty Senate (who will nominate faculty members for the various committees on behalf of the Faculty Senate). In addition there will be a representative from each of the following: the A-1 staff, the A-3 staff, the Graduate and Professional Student Assembly, and the Nominations and Elections Committee. The chair-elect of the Faculty Senate shall be a voting ex officio member of the committee.

d. Committee on Communications. The Committee on Communications shall have cognizance over the University's communications and public relations activities in their various formats and media including electronic (e.g. PennNet), audio (the telephone system), video and printed copy. In particular, it shall monitor the University's internal communications, the operations of News and Public Affairs and the Publications Office, communications to alumni, and the interpretation of the University to its many constituencies. The Committee shall consist of eight faculty members, two A-1 staff members, two A-3 staff members, two graduate/professional students, and two undergraduate students. The assistant vice president for university relations, vice provost and director of libraries, vice provost for information systems and computing, and associate vice president for business services shall be non-voting ex officio members of the Committee.

e. Community Relations Committee. The Community Relations Committee shall advise on the relationship of the University to the surrounding community. It shall advise the Council and help make policy with respect to the community. It shall work with the Office of Community Relations to assure that the University develops and maintains a constructive relationship with the community. The chair of the committee shall have cognizance of pending real estate activities of concern to the community. The chair along with the director of community relations shall meet quarterly or more often, if needed, with the senior vice president or his or her designee for real estate to be informed of impending real estate activities that affect the community. They shall, with discretion, discuss relevant cases with the Committee, and may inform the community as the need arises. The Committee shall consist of eight faculty members, four A-1 staff members, two A-3 staff members, two graduate/professional students, and two undergraduates. At least three members shall reside in West Philadelphia. The senior vice president or his or her designee, the directors of recreation, community relations, and Annenberg Center, the director of the African-American Resource Center, the manager of WXPB-FM, and the coordinator of off-campus living shall be non-voting ex officio members of the Committee.

f. Facilities Committee. The Facilities Committee shall be responsible for keeping under review the planning and operation by the University of its physical plant and all services associated therewith, including transportation and parking. The Committee shall consist of eight faculty members, three A-1 staff members, two A-3 staff members, two graduate/professional students, and two undergraduate students. The vice president for facilities management, director of community relations, the chair of the Committee for an Accessible University, and the registrar shall be non-voting ex officio members of the Committee.

g. International Programs Committee. The International Programs Committee shall review and monitor issues related to the international programs and other international activities of the University. The International Programs Committee shall advise and make policy recommendations in such areas as services for international students and scholars, foreign fellowships and studies abroad, faculty, staff and student exchange programs, and cooperative undertakings with foreign universities. The Committee shall consist of eight faculty members, one A-1 staff member, one A-3 staff member, three undergraduates, and three graduate/professional students. The Director of International Programs shall be a non-voting ex officio member of the Committee.

h. Library Committee. The Library Committee shall advise the director of libraries on the policies, development, and operation of the University libraries. The Committee shall consist of eight faculty members, one A-1 staff member, one A-3 staff member, two graduate/professional students, and two undergraduate students. The director of the Biddle Law Library and the director of libraries shall be non-voting ex officio members of the Committee.

i. Personnel Benefits Committee. The Personnel Benefits Committee shall have cognizance over the benefits programs for all University personnel. The Committee shall consist of eight faculty members (of whom one shall be a member of the Senate Committee on the Economic Status of the Faculty), three A-1 staff members (of whom one shall be a designated representative of the A-1 Assembly), two A-3 staff members, and one graduate/professional student. The comptroller, vice president for human resources, and benefits manager shall serve as non-voting ex officio members.

j. Committee on Pluralism. The Committee on Pluralism shall advise the Offices of the president, provost, the executive vice president, and the vice provost for university life on ways to develop and maintain a supportive atmosphere on campus for the inclusion and appreciation of pluralism among all members of the University community. The Committee will also address specific diversity issues that may arise on campus. The Committee shall consist of eight faculty members, two A-1 staff members, three A-3 staff members, three graduate/professional students, and three undergraduate students, with due regard for appropriate diversity. The chairs of the Penn Professional Staff Assembly and the A-3 Assembly, and the directors of the Penn Women's Center, the African-American Resource Center, Student Life Programs, the Office of Fraternity and Sorority Affairs, the Department of Residential Living, and the Office of International Programs shall be non-voting ex officio members of the Committee.

k. Committee on Recreation and Intercollegiate Athletics. This Committee shall have cognizance over recreation and intramural and intercollegiate athletics and their integration with the educational program of the University, including the planning and provision of adequate facilities for various sports and recreational activities. The Committee shall consist of eight faculty members, two A-1 staff members, two A-3 staff members, two graduate/professional students, and two undergraduate students. The director of recreation and intercollegiate athletics, the vice provost for university life, the dean of admissions and one representative of the president's office shall be non-voting ex officio members of the Committee.

l. Committee on Research. The Committee on Research shall be generally concerned with the research activity of the University. It shall have cognizance of all matters of policy relating to research and the general environment for research at the University, including the assignment and distribution of indirect costs and the assignment of those research funds distributed by the University. It shall advise the administration on those proposals for sponsored research referred to it because of potential conflict with University policy.

Its membership shall include eight faculty members nominated by the Faculty Senate Executive Committee, four faculty and/or A-1 staff members nominated by the president and/or the provost, two graduate/professional students, and two undergraduate students. Faculty members and A-1 staff members shall be appointed for staggered two-year terms and students shall be appointed for one-year renewable terms. The chair is selected by the Steering Committee from among the membership. The vice provost for research shall be a non-voting ex officio member of the Committee.

m. Safety and Security Committee. The Safety and Security Committee shall advise the president, the director of public safety, and the administrators or directors of specific buildings, offices, or projects on all matters concerning safety and security in the conduct of their operations. Its principal responsibility is to consider and assess means to improve safety and security on the campus. The Committee shall consist of eight faculty members, two administrators, two members of the A-3 Assembly, two graduate/professional students, and three undergraduate students. The directors of fraternity and sorority affairs, residential living, physical plant, the Penn Women's Center, victim and security support services, and public safety, of transportation and parking (or his or her designee), the manager of fire and occupational safety, the coordinator of off-campus living, the director of the African-American Resource Center, and the vice provost for university life shall be non-voting ex officio members of the Committee.

n. Committee on Student Affairs. The Committee on Student Affairs shall have cognizance of the conditions and rules of undergraduate and graduate student life on campus. The Committee shall, inter alia: 1) gather and analyze information concerning student life and student affairs and make recommendations to Council; and 2) respond as appropriate to requests from and report information and recommendations concerning student life and student affairs to the vice provost for university life and other appropriate administrative officers. The Committee shall consist of eight faculty members, two A-1 staff members, two graduate/professional students, and three undergraduate students. The chair of the Undergraduate Assembly and the chair of the Graduate and Professional Student Assembly shall serve as voting ex officio members. The vice provost for university

life and the chaplain shall serve as non-voting ex officio members. The Committee shall monitor the performance of all student services and shall recommend to appropriate administrators ways in which services to students may be improved; a standing Subcommittee on Student Services shall be charged with the monitoring function.

2. Special Committees

The Council may create special committees to undertake specific tasks or functions. The membership of special committees shall be specified in the charges detailed by the Council in creating such committees.

3. Independent Committees

The Council takes cognizance of several University committees, which it does not directly charge but which may be called upon to report to the Council on specific issues within their purview.

(a) *Committee on Open Expression.* The Committee on Open Expression has as its major task: monitoring the communication processes to prevent conflicts that might emerge from failure of communication, recommending policies and procedures for improvement of all levels of communication, investigating alleged infringements of the right of open expression of any member or members of the University community, advising administrative officers where appropriate, and participating in evaluation and resolution of conflicts that may arise from incidents or disturbances on campus. The Committee shall consist of thirteen members: five faculty members, two A-1 staff members, one A-3 staff member, and five students. The faculty and A-1 staff members are appointed to two-year terms, staggered so that in each year either two or three faculty members are appointed, and one A-1 member is appointed. The student members are appointed to one-year terms. The chair of the Committee shall be selected by the Steering Committee from among the members. The jurisdiction of and procedures of the Committee shall follow the Guidelines on Open Expression. At the beginning of every year, the Committee shall conduct a meeting in order to familiarize the members with the Guidelines and the responsibilities of Committee members in enforcing and implementing the Guidelines.

(b) *Academic Planning and Budget Committee.* The purpose of the Committee shall be: 1) to provide to the administration advice on the composition of the annual budget and on multi-year financial plans for the University; 2) to take into account, study, and report on long-range implications of current budget issues and alternatives; 3) to provide systematic thought about the evolving educational mission and educational needs of the University, and their present and future budgetary implications; 4) to provide useful early warnings of potential problems and early information on potential opportunities; and 5) to clarify means-ends relationships regarding programs and resources, including a reasoned basis for proposed priorities.

The purpose of the Committee is to bring together academic planning and financial planning so that informed advice might be provided to the administration on both short-term and long-range resource allocation. Thorough involvement in the development of the annual budget shall provide the Committee with the opportunity to familiarize itself with the economic condition of the University and to develop and explore optional modes of fulfilling the University's academic mission. In pursuing this charge it may request other officials or bodies within the University to report short- and long-range plans, to analyze important problems, to evaluate available options, and to help support in other ways the planning process.

In addition to the general charge to the Committee, the president may from time to time give more specific charges to the Committee. Preferably such periodic charges will be given at the beginning of the academic year, but the president may frame an ad hoc charge on matters that are either more specific or that are more immediate than the charge given at the beginning of each year. The Committee may, of course, develop its own agenda apart from the president's charges, based upon the Committee's interpretation of the general charge in the context of the University's situation at a given time.

It is to be understood that in regard to major reallocations that would change the character of an academic or other center or school, the president will seek and/or receive advice from other duly constituted advisory and consultative bodies according to the provisions and practices obtaining at the time.

The Committee's work shall be confidential, and it shall be empowered to promise corresponding confidentiality to those with whom it interacts.

The requirement of confidentiality applies only to the proceedings of formal business meetings, including documents and information provided for or at such meetings. It does not apply to open hearings or other non-business formats that the provost as chair wishes to employ.

The provost will implement and administer this rule of confidentiality not as an end in itself, but as means towards the larger ends of the Committee. As such, the provost will develop, in and through practices, the

practical accommodations necessary to foster a necessary openness to the University community on the one hand and the confidentiality of the Committee's actual deliberations on the other hand. The practical goal in mind will be properly to reconcile all three of the following principles: openness to information and opinion from outside the Committee, the protection of ongoing deliberations and developing individual positions within the Committee, and the communication of the positions of the Committee as a whole after they have been achieved. In order to achieve this goal, the Committee shall provide progress reports and information on items on the agenda with the aim of facilitating communication between the Committee and the University community.

The provost, on behalf of the Committee, shall communicate with the president through whatever means and at whatever times are appropriate. In addition, the provost shall periodically, but at least annually, inform the University community about the advice the Committee as a whole has given the president and the reasons therefore.

The Committee shall have fourteen members and two alternate members: nine faculty, two graduate/professional students (one member, one alternate), two undergraduate students (one member, one alternate), two A-1 staff members, and the provost. The nine faculty shall be chosen as follows: four faculty shall be chosen by the president and five shall be chosen by the Faculty Senate Executive Committee. The two student members and two alternates shall be chosen as follows: one graduate/professional student member and one alternate by the Graduate and Professional Student Assembly; one undergraduate student member and one alternate by the Undergraduate Assembly. The two A-1 staff members shall be named by the president each year. The provost shall serve ex officio, and shall serve as chair.

The nine faculty members shall serve three-year non-renewable terms. The two student members, and the student alternates, shall serve one-year renewable terms. A student alternate may be renewed as a student member if a vacancy exists and vice versa. In order that there be the potential for partial faculty membership rotation annually, the nine initial faculty appointments shall include three one-year, and three two-year appointments which may be renewed as three-year appointments.

The fourteen members shall each have a vote; the provost as chair shall vote only to resolve a tie. The two alternates may attend all proceedings of the Committee, may be privy to all its information and deliberations, but shall not have voting power, except that when a student member (undergraduate or graduate/professional) is absent for a particular vote the respective alternate may vote in his/her stead.

The members of the following independent committees and their chairs are appointed by the Steering Committee with the advice of the Committee on Committees.

(c) *Disability Board.* The Disability Board continually evaluates the disability plan for adequacy, equity, and consistency with the broad University objectives; monitors the financial and administrative operations of the plan; oversees the processing of any applications for disability benefits and periodic reviews of existing disability cases; and hears appeals from decisions of the Medical Subcommittee of the Disability Board. The Board shall consist of seven faculty members, of whom at least three shall be members of the clinical faculty of the School of Medicine. The chair of the Personnel Benefits Committee is an ex officio member.

(d) *Honorary Degrees Committee.* The Honorary Degrees Committee solicits nominations from faculty and staff members and students for honorary degrees to be awarded by the University at Commencement and at special convocations and submits a slate of nominees for action by the trustees. It may make recommendations to the president regarding Commencement speakers and the conduct of special convocations. The Committee shall consist of eight faculty members, two graduate/professional students, and two undergraduate students.

(e) *Student Fulbright Awards Committee.* The Student Fulbright Awards Committee shall evaluate applications from graduating seniors and graduate students for Fulbright scholarships for study abroad and shall make recommendations for the guidance of the Institute of International Education in making the awards on behalf of the State Department. The Committee shall consist of eight faculty members and two administrators. The associate director of international programs is an ex officio member.

VII. Amendments

These bylaws may be amended by a majority vote of the members of the Council in attendance in the presence of an actual quorum at any meeting if the proposed changes have been distributed in writing to the members of the Council at least one month in advance of that meeting.

Revisions to Proposed Policy:

Half-Time Status for Doctoral Students Engaged in Preparing Dissertations

After consideration of the responses from faculty, students, and administrators to our earlier proposal (*Almanac* January 17, 1995) to permit a part-time registration for Ph.D. students on doctoral registration tuition, the Graduate Council of the Faculties has revised its proposal to allow a half-time status for students who have been on dissertation registration (either dissertation tuition or doctoral registration tuition) for more than 10 semesters. The proposal differs from the earlier proposal in that it covers Ph.D. students in all schools (rather than only those in schools using doctoral registration tuition) who are on dissertation status for more than 10 (as opposed to 5) semesters.

Currently, all students enrolled for doctoral registration tuition or dissertation tuition are classified as full-time. This creates a problem when a student is not engaged in full-time study. Either the student is dropped and has no access to University resources necessary to completion of their degree, even on a part-time basis, or the student continues on the rolls inaccurately classified as full-time. If the latter occurs, the accumulation of interest and the payment of principal on student loans may be inappropriately postponed and student visas may be inappropriately issued.

Council is proposing the following changes to *Graduate Academic Rules and Regulations* (at page 323 of *The University of Pennsylvania Graduate Catalogue 1994-1996*):

“Students enrolled for dissertation beyond 10 semesters are considered half-time students, unless they have established that they are full-time students.

- Dissertation students beyond the tenth semester of dissertation registration are full-time if:
- they are serving as a teaching assistant, a research assistant, or research fellow at the University of Pennsylvania; or
 - on approval of their dissertation supervisor and their graduate group chair, with confirmation by their dean and the Vice Provost for Graduate Education, they demonstrate that they are engaged in full-time research on their dissertation. The acceptance of full-time employment creates a presumption that a student is not engaged in full-time research.”

Please forward any comments or concerns about this proposal to the Graduate Council of the Faculties through the Office of the Vice Provost for Graduate Education, 303 College Hall/6381, or via e-mail to madden@ssdc.sas.upenn.edu. Comments should be sent no later than *April 14, 1995*.

— Office of the Vice Provost for Graduate Education

Twenty-Five Year Club: Planning Ahead for October 5

The annual reception and dinner of the Twenty-Five Year Club is scheduled for Thursday, October 5, 1995 at the Penn Tower Hotel. The reception will be at 4:30 p.m., dinner at 6 p.m. Please mark the date on your calendar. Formal invitations are scheduled to be mailed after Labor Day. If you have any questions, please call Duncan W. Van Dusen, at Ext. 8-7005.

Nora Bugis, Chair

Patricia M. Hanrahan, Secretary and Chair-elect
Duncan W. Van Dusen, Secretary-elect

Fulbright Scholars, 1996-97 Competition for Faculty

The 1996-97 competition for awards under the Fulbright Scholar Program for faculty lecturing and research in more than 135 countries is now open, with an application deadline of *August 1, 1995*. Some special programs have later deadlines.

Each year over 1,000 Fulbright grants are awarded to U.S. faculty and professionals for periods ranging from 2 to 12 months. Grantees come from literally every area of the humanities, social sciences, and the physical sciences, as well as from applied fields such as business, law, and TEFL. Faculty in all academic ranks, including emeritus, are eligible to apply. Applicants must:

- be U.S. citizens (permanent residency is not sufficient);
- hold the Ph.D., appropriate terminal degree in their field, or equivalent professional status and recognized standing; and
- for lecturing assignments, have suitable college or university teaching experience.

Interested persons should write or call for further information on Fulbright grants for faculty and professionals:

Council for International Exchange of Scholars
3007 Tilden Street, N.W., Suite 5M
Box GBRO
Washington, D.C. 20008-3009
E-mail: CIES1@CIESNET.CIES.ORG
Telephone: (202) 686-7877

The Fulbright Program is funded and administered by the United States Information Agency. Financial support is also provided by participating governments and by host institutions in the United States and abroad. The presidentially appointed J. William Fulbright Foreign Scholarship Board formulates policy guidelines and makes the final selection of grantees.

Child Care at Reduced Fees

Each year the Penn Children's Center, the University's child care program located at 4201 Spruce Street, sets aside funds to help reduce the cost of the program for qualified Penn staff and students. Applications received by *May 1* will be considered for fee reduction for children enrolled in the center as of July 1, 1995.

One of only two centers in the area accredited by the National Association for the Education of Young Children (NAEYC), the Penn Children's Center now has openings in both the “summer-time fun” program and fall session for children ages 12 weeks through 5 years. The program features weekly themes and a diverse multicultural curriculum, and is based on the principles of early childhood education. The center has new CD-ROM computers for the children, an art and gym room, and an outdoor playground. Teaching staff hold degrees in early childhood education.

For more information or to arrange a tour: Director Anjali Chawla, 898-5268.

Rikkyo Research Fellowships

Rikkyo University, Tokyo, invites applications to its 1996-1997 fellowship program, established to encourage international academic exchange. Scholars from abroad who desire to utilize Rikkyo's research organization and facilities can engage in joint research with members of Rikkyo's faculty or pursue their own specific research, if it is feasible at Rikkyo.

Closing date for applications is *June 30, 1995*. (Please note that an application can be made only if the prospective applicant first of all has in hand a completed Letter of Consent form in which a Rikkyo faculty member has agreed to cooperate with the applicant in his/her research at Rikkyo). For forms: Elva Power, Office of International Programs, 133 Bennett Hall/6275, 898-1640.

OEHS Safety Seminars

The following training programs are required by the Occupational Safety & Health Administration (OSHA) for all who work with hazardous substances, including chemicals, human blood, blood products, fluids, and human tissue specimens. The programs are presented by the Office of Environmental Health & Safety (OEHS). Attendance is required at one or more sessions depending on the employee's potential exposure.

Chemical Hygiene: Comprehensive introduction to laboratory safety practices and procedures at Penn and familiarizes the laboratory employee with the Chemical Hygiene Plan. This course is designed for employees who have not previously attended Chemical Hygiene training at Penn. Required for all Penn employees who work in labs. *April 11 and May 25, 10-11 a.m., John Morgan Building, Rm. B.*

Occupational Exposure to Bloodborne Pathogens: Significant information for employees who have a potential exposure to human bloodborne pathogens. Topics include a discussion of the Exposure Control Plan, free Hepatitis B vaccination, recommended work practices, engineering controls and emergency response. This course is designed for employees who have not previously attended Bloodborne Pathogens training at Penn. Required for all Penn employees potentially exposed to human blood or blood products, human body fluids, and/or human tissue. *April 19 and May 11, 10-11 a.m. John Morgan Building, Class of 1962 Lecture Hall.*

Attendees are requested to bring their PennCards to facilitate course sign-in. Additional programs will be offered monthly during the spring; check PennInfo for dates and times. For questions: Bob Leonzio at 898-4453.

In and Out of Houston Hall

Suite 200 Houston Hall, previously occupied by the Vice Provost for University Life, is now home to the 21st Century Project for the Undergraduate Experience and its executive directors, Drs. Robert Lucid and Kim Morrisson. As of spring break, they have a new neighbor:

The Program for Student-Community Involvement has moved from the Christian Association into Suite 200. The phone number for Director David H. Grossman, Marcine Pickron-Davis, and Yanina Carter is unchanged, as are the fax number and e-mail addresses for the program.

The Office of the VPUL is now located at 3611 Locust Walk.

Want to Volunteer for Alumni Weekend?

Alumni Weekend 1995 is coming soon and we need *you* to make it successful. Some of you already know how much fun this can be, but if you've never taken the plunge, you're missing a terrific opportunity to meet new friends, help others, and have a good time, too.

This year, we need volunteers in two broad categories. *Reunion Volunteers* are paired with a quinquennial reunion class for all of their events on Friday, May 19, and Saturday, May 20. (A few classes may also need volunteers on Thursday, May 18 and/or Sunday, May 21.) *Alumni Day Volunteers* are needed at the many events on Saturday, including the Alumni Run, Alumni Day Picnic, and Parade of Classes, and to staff the Information Tent. *Please note:* For Friday only, volunteer opportunities are limited and preference will be given to previous volunteers.

For a volunteer application form and other information, please call 898-7811 *in time to return the application by March 31*. Orientation will be held on Thursday, May 4, at 9:15 a.m. at the Sweeten Center.

We hope that you will take advantage of this great opportunity to help the University and have fun. We look forward to hearing from you soon.

—Carol Fitzgerald, Ann Aldrich, Lori Busch and Sylvia Purnell
Office of Alumni Relations

About the Crime Report: Below are all Crimes Against Persons and Society listed in the campus report for the period **March 13 and 19, 1995**. Also reported were Crimes Against Property, including 44 thefts (including 5 burglaries, 2 of autos, 10 from autos, 3 of bikes and parts); 5 incidents of criminal mischief and vandalism; 1 of trespassing and loitering. Full reports are in *Almanac* on PennInfo. —Ed.

The University of Pennsylvania Police Department Community Crime Report

This summary is prepared by the Division of Public Safety and includes all criminal incidents reported and made known to the University Police Department between the dates of **March 13 and 19, 1995**. The University Police actively patrol from Market Street to Baltimore Avenue, and from the Schuylkill River to 43rd Street in conjunction with the Philadelphia Police. In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call the Division of Public Safety at 898-4482.

Crimes Against Persons

34th to 38th/Market to Civic Center: Sexual assaults—1, Threats & harassment—4
03/13/95 1:54 PM Warwick Dorm Unwanted calls received from exboyfriend
03/13/95 2:18 PM Biomed Bldg. # 1 Harassing calls received
03/15/95 12:10 AM Thos. Penn Dorm Calls made by unknown female
03/16/95 11:48 AM Ralston House Harassing phone calls received
03/17/95 9:34 AM 37th St. Subway Complainant grabbed on trolley

38th to 41st/Market to Baltimore: Robberies (& attempts)—1, Simple assaults—1, Threats & harassment—2

03/13/95 2:49 PM Harnwell House Harassment
03/13/95 4:09 PM Mayer Hall Group of males attacked juveniles
03/16/95 8:12 AM Harnwell House Harassing phone call received
03/17/95 5:28 AM 4000 Blk. Locust Robbery by unknown male

41st to 43rd/Market to Baltimore: Robberies (& attempts)—1
03/18/95 2:23 AM 100 Blk. 42nd Robbery of wallet & VCR by male

30th to 34th/Market to University: Robberies (& attempts)—1, Threats & harassment—1

03/14/95 4:54 PM 200 Blk. 33rd Actor following complainant
03/15/95 6:46 PM Chemistry Bldg. Robbery by male w/knife/no injury

Crimes Against Society

34th to 38th/Market to Civic Center: Disorderly conduct—2

03/14/95 5:43 PM 3700 Blk. Sansom Male attempted to break into auto/arrest
03/17/95 6:58 PM 3700 Blk. Spruce Male stopped for careless driving/disorderly

41st to 43rd/Market to Baltimore: Disorderly conduct—1

03/18/95 5:31 PM 200 Blk. 42nd Male stopped for vehicle violation/disorderly

Update

MARCH AT PENN

CHILDREN'S ACTIVITY

25 Feet Make Music; for children, ages 6-12, and their parents; with flamenco dancer Julia Lopez, South Indian bharathanatyam dancer Shoba Sharma and tap dancer Germaine Ingram; 1 p.m.; Folklife Center, International House; \$5, \$3/children; tickets: 893-1145.

MUSIC

22 Curtis Organ Recital; George Fieco; 12-12:30 p.m.; Irvine Auditorium.

28 Music by Schumann; Pianist Vladimir Tropp, Gnesin Musical Institute, Moscow; 7:30 p.m.; Room 107, Music Building; 898-7544 (Music).

TALKS

22 Extracellular Matrix Remodeling in Ovulation and Cervical Dilatation; J. Frederick Woessner, University of Miami; noon; Hirst Auditorium, Dulles (Ob/Gyn; Reproductive Bio).

23 Regulating Environmental Risk; Robert Pollack, University of Washington; noon; Room 2034, Steinberg Hall-Dietrich Hall (Public Policy and Management).

The Renewed Excavations at Tel Beth Shean, 1989-1994; Amihai Mazar, Hebrew University, Jerusalem; Kevorkian Lecture; 6 p.m.; Rainey Auditorium, University Museum (Middle East Center).

24 Somalia: The Failed International Mandate; Walter Clark, retired, Department of State and Ken Menkhaus Clarke, US Army War College and Davidson College; noon; Undergraduate Lounge, Stiteler Hall (Middle East Center; African Studies Program).

Transesophageal Echocardiograph: Uses in Diagnosis and Management; Victor Ferrari, cardiology; noon; Agnew-Grice Auditorium, Dulles (Medicine).

God, the King and the Nation: The Rhetoric of Politics in Saudi Arabia in the 1990s; Madawi al-Rashid, Oxford; 2 p.m.; Room 421, Williams Hall (Middle East Center; Anthropology; Political Sciences).

27 Studies on Dimerization Specificity in the myoD Family of bHLH Proteins; Bruce Paterson, National Cancer Institute-NIH; 2 p.m.; Physiology Library, Richards Building (Pennsylvania Muscle Institute).

Arthur Ashe's Days of Grace; Arnold Rampersad, Princeton; Richard Wright Lecture; 4:30 p.m.; Room 105, Lauder-Fischer Hall. (Center for the Study Black Literature and Culture).



Almanac

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ALMANAC ADVISORY BOARD: *For the Faculty Senate*, Martin Pring (Chair), Jacqueline M. Fawcett, Phoebe S. Leboy, William Kissick, Barbara J. Lowery, Ann E. Mayer, Paul F. Watson; *for the Administration*, Stephen Steinberg; *for the Staff Assemblies*, Berenice Saxon for PPSA (formerly A-1 Assembly), Diane Waters for the A-3 Assembly, David Azzolina for Librarians Assembly.

Technology in Teaching *by C. J. McMahon, Jr.*

Suppose that you, as an automotive expert, are given the task of explaining how the basic parts of an automobile work to a student with a good high school education. You want to do this with maximum effectiveness in the minimum time. You quickly realize that a chalkboard is inadequate and that you need to employ visual aids, like diagrams and photographs. Ideally, you would want to use animated illustrations of the various parts of the engine, transmission, drive shaft, steering, brakes, etc., perhaps along with photographs and video clips. At the moment, there is no way to do this, but in the brave new world now almost upon us, you could load a CD-ROM into your laptop computer (color screen, of course), let the student play it, and then be there to answer questions and elaborate on whatever points need more explanation.

The need for this kind of teaching abounds in many areas of pure and applied science. As a "high-end" educational institution, our challenge is to be at the leading edge of teaching with maximum efficiency and effectiveness. That is, in the limited time available for any given subject we need to impart the maximum amount of knowledge and understanding at the highest possible level. If we succeed, we will continue to attract highly intelligent students willing to go into debt (along with their parents) to study here. The way to succeed is to take advantage of the technology now available, technology which will be part of routine teaching within the current decade at any institution at the leading edge.

Our introductory course in materials science has been a good test bed for the development of techniques for teaching about complicated systems which are completely unfamiliar to the average beginning student. The aim of the course is to provide in one semester for any undergraduate with a decent high school education a functional understanding of the discipline, which essentially involves the relationships connecting properties of materials (i.e., metals, ceramics, polymers, composites, and semiconductors) with their structure, ranging from the electronic level to structures coarse enough to see with the naked eye. We have just finished a seven-year development effort, which culminated in a new textbook in which we reformulated the traditional list of topics in a way that provides a student with a familiar conceptual framework. Dividing materials into those used to build structures and those used for devices, we use the bicycle and the Walkman as our paradigms. We have found that we can not only improve greatly on the students' understanding and retention but also raise the level of the course to a considerable degree.

While we were in the middle of this effort, it became apparent that it would be necessary to develop better ways to overcome the barriers to understanding of topics that require students to visualize complex phenomena, like the operation of the parts of an automobile. Many of the phenomena of interest involve physical motion or things that evolve with time. We found that static illustrations are inadequate to convey an accurate mental picture of the processes involved. This realization came from a number of informal review sessions, usually held before mid-terms or final exams, in which students were encouraged to explain their understanding of various topics. The fundamental problem is that, when an instructor attempts to convey a complex mental picture, he has no way to see the image that the student has received and the student cannot see the image that was being transmitted.

The solution to this problem is obviously to use a computer monitor, so that the dynamic image of the phenomenon or process is visible on the screen to both the instructor and student simultaneously. This is analogous to a high-tech chalkboard or slide projector; the

essential difference is that the image can be made to move. We have found that this method produces an extraordinary improvement in the speed and accuracy of comprehension of complex topics. The effect is at least as great as one would find from the use of normal (static) illustrations, compared with no illustrations. A good example is found in the series of animations depicting the plastic shearing of crystals by the motion of defects called dislocations. In about forty minutes, we can convey an accurate understanding of this set of phenomena, which are normally considered too complex for an introductory-level course. Without the animations, it would take at least twice as long to "cover" this subject, and we would have no idea of how much was comprehended by any particular student. A clear understanding of the mechanisms of plastic deformation is essential for one to learn how materials, e.g., in bicycles are made strong. Thus, a major part of the course is on shaky ground if the student does not understand the basic ideas of dislocations.

Beyond 'Shovelware'

The improvement in communication allowed by the animations is analogous to the advance provided by cinematography over still photography. Once animations are used, it becomes unthinkable not to continue to use them on a more extensive scale. Thus, they define a new state of the art. The problem then becomes one of assembling the money and talent to produce computer-based dynamic images on an ever-expanding scale. This involves the right kind of computer (e.g., a Quadra AV-type) with lots of memory, software like Macro-media Director, video-editing hardware and software, a machine to make CD-ROMs, etc., along with an instructor who is an experienced teacher and has a clear understanding of the images that need to be produced and one or more assistants who are capable of using the equipment to produce the images. All this involves the acquisition of new resources, or the re-allocation of present resources, at a time when financial pressures are increasing. However, there is really no choice for a university that wants to be competitive in the long run, and the long run will be measured in years, not decades.

It needs to be emphasized that the type of activity being described here is separate from the ideas being discussed with regard to distance learning *via* the Internet, the so-called virtual university. We are speaking here simply of a logical extension of what already goes on in university courses, using new hardware and software. Producing this type of CD-ROM is essentially similar to authoring a textbook of a type that needs a lot of technical assistance. That is, it needs the participation of specialists who keep up to date in a fast-developing new field. Because of this, carefully thought out institutional support would be of great benefit. It would be helpful to have a centralized resource at this University to provide this. The Center for Advanced Instructional Media at Yale might be an appropriate model, and the Annenberg School would seem to be a natural home for such a center, since what is involved here is essentially an advanced form of communication.

Even though we at Penn would be a bit late arriving at the starting gate, we would not be very much behind the state of the art. The rate-limiting step in making a useful CD-ROM is the creation of useful content. Although the number of CD-ROM titles has grown in the past two years from under 200 to over 2000, the vast majority of titles are derided as "shovelware," for which images and text have been assembled from whatever lay at hand, just to get a product on the market. Since the creation and conveying of intellectually significant content is our main activity, we are in a clear position of advantage in entering this new field.

This article is the sixth in a series developed by the Lindback Society and the College of Arts and Sciences. The author is professor of materials science and engineering in the School of Engineering and Applied Science.