

NOTRE DAME REPORT

THE UNIVERSITY

- 153 *Advisory Council Members Named*
- 153 *Eck Center to House Bookstore*
- 154 *IBM Supports Computing Cluster*
- 154 *Legal Aid Clinic to Establish Mediation Clinic*
- 154 *Miller Gives Scholarship*
- 154 *Air Force ROTC Wins Excellence Award*
- 154 *Energy Analysis and Diagnostics Center Declared
an Industrial Assessment Center*

FACULTY NOTES

- 155 *Honors*
- 155 *Activities*

ADMINISTRATORS' NOTES

- 160 *Appointments*
- 160 *Honors*
- 160 *Activities*
- 160 *Publications*

DOCUMENTATION

- 161 *University of Notre Dame Assessment Plan*
- 172 *Faculty Senate Journal*
September 6, 1995
- 178 *University Committee on Libraries*
May 23, 1995

THE GRADUATE SCHOOL

- 180 *Current Publications and Other Scholarly Works*
- 185 *Awards Received and Proposals Submitted*
- 186 *Awards Received*
- 188 *Proposals Submitted*

NOVEBER 3, 1995 • NUMBER 5

THE UNIVERSITY

Advisory Council Members Named

New members of Notre Dame's advisory councils have been announced:

College of Arts and Letters — Patricia Jo Ann Gales, Phoenix; Susan Hagan, Pittsburgh; Thomas Herbstritt Jr., president, Chicago Hardware and Fixture Co., Franklin Park, Ill.; Donald Potter, president, Windermere Associates, Inc., San Francisco; James Sullivan, investment analyst, LaSalle National Bank, Chicago; and Thomas Sullivan, president, Delphi Capital Management, New York.

College of Business Administration — Kevin Bradford, doctoral candidate, University of Florida, Gainesville, Fla.; Dorothy Dolphin, chairman of the board, Dolphin Companies, Minneapolis; Zein Issa, marketing executive, SuperClubs, Kingston, Jamaica; and David Johnson, president and chief executive officer, Campbell Soup Co., Camden, N.J.

College of Engineering — John Barter III, president, AlliedSignal Automotive, Southfield, Mich.; Michael Hawley, regional manager, AT&T Network Systems, Schaumburg, Ill.; Joseph Keating, senior vice president, Merck & Co., Inc., Whitehouse Station, N.J.; Charles Kitz, director of corporate and public policy planning, Chrysler Corp., Highland Park, Mich.; Rex Martin, president and chief executive officer, NIBCO, Elkhart, Ind.; Joseph Neuhoﬀ, president, Neuhoﬀ Oil and Gas Corp., Dallas; and Patricia Pieronek, Anderson Consulting, Chicago.

College of Science — Rosemary Marusak, assistant professor of chemistry, Kenyon College, Gambier, Ohio; and John Zic, director of dermatology, Vanderbilt University Medical Center, Nashville, Tenn.

Law School — Sheila O'Brien, judge, Illinois Appellate Court, Chicago; and Charles Wilson, U.S. attorney, Tampa, Fla.

University Libraries — Edward Devine, managing director of corporate finance, Chemical Bank, New York; Craig Kapson, president, The Jordan Group, Mishawaka, Ind.; Scott Mulcahy, graduate student, Northwestern University, Evanston, Ill.; Carmina Perez, attorney, Whiteford, Taylor & Preston, L.L.P., Baltimore; William Simpson, president, J.P. Emco, Ada, Okla.; and Samuel Valenti III, president, Masco Capital Corp., Taylor, Mich.

Graduate Studies and Research — George Novak, executive vice president and director of institutional sales, The Robinson-Humphrey Co., Atlanta; Michael Shannon, vice chairman, Ecolab Inc., St. Paul, Minn.; James Sullivan, vice chairman, Chevron Corp., San Francisco; and Robert Sullivan, principal, Sullivan & Co., Tulsa, Okla.

Snite Museum of Art — Dorothy Griffin, president, Varflex Corp., Rome, N.Y.

Institute for Church Life — Francis English Jr., managing director of corporate finance, Morgan Stanley & Co., Winnetka, Ill.; Micaela English, Winnetka, Ill.; Louis Gentine, president and chief executive officer, Sargento Inc., Elkhart Lake, Wis.; Michele Gentine, Elkhart Lake, Wis.; Brian McCarthy, chief of World Health Organization Collaborating Center in Perinatal Care and Health Services Research at the Centers for Disease Control, Atlanta; Mary McCarthy, Atlanta; Lisa Orchen, director of campus ministry, Saint Joseph College, West Hartford, Conn.; William Shaw, president, Marriott Services Group and executive vice president, Marriott Corp., Potomac, Md.; and Rebecca Shaw, Potomac, Md.

International — Robert O'Grady, vice president and underwriting manager, Sun Alliance, USA, New York.

Eck Center to House Bookstore

With a \$10 million gift from 1944 alumnus Frank Eck, the University will build a multiuse facility housing a greatly expanded Hammes Notre Dame Bookstore, headquarters offices for the Alumni Association and a new campus visitors' center. Eck Center, as the new facility will be known, will be located on Notre Dame Avenue south of the Morris Inn. Construction is scheduled to begin in the spring of 1997.

As planned, Eck Center will more than double the area of the present Hammes Bookstore, a 1955 gift to the University from Mr. and Mrs. Romy Hammes. The new bookstore will occupy approximately three-fourths of the center's total area. The Alumni Association headquarters will relieve a severe office space shortage created by the association's greatly expanded programming, notably in the areas of continuing education and community service. The visitors' center, which will include a reception area and auditorium, will fill a long-standing need for such a facility on a campus that is among the most popular tourist attractions in the region.

Eck, who was graduated from Notre Dame with a degree in chemical engineering, is chairman and chief executive officer of Advanced Drainage Systems, Inc., of Columbus, Ohio. Eck previously has endowed a collection in chemical engineering in the Hesburgh Library and underwritten construction of Frank Eck Stadium, the baseball arena completed in 1994, and Eck Tennis Pavilion, an indoor recreational tennis facility completed in 1987. He has been a member of the College of Engineering Advisory Council since 1984.

THE UNIVERSITY

IBM Supports Computing Cluster

Notre Dame has received a \$600,000 grant from IBM's Shared University Research (SUR) Program to increase resources in the University's High Performance Computing Cluster (HPCC).

The grant will be used to add an 8 processor IBM SP2, which will be used exclusively for parallel processing and eventually will be integrated with an existing 16 processor IBM SP1 to provide a larger parallel computing complex in the HPCC.

Since 1993, Notre Dame has received more than \$2.2 million in grants from IBM to develop the HPCC. In addition, the University has added more than \$500,000 toward HPCC resources.

The new SUR grant will introduce a parallel computing environment to Notre Dame. In parallel computing, the workload is distributed across numerous individual processors, allowing tremendous volumes of information to be processed simultaneously at incredibly high speeds. Different types of information can be accessed, and calculations can be performed at billions of calculations per second.

Legal Aid Clinic Receives Grant to Establish Mediation Clinic

The Law School's Legal Aid Clinic has received a \$52,900 grant to establish a mediation clinic to serve low-income residents of St. Joseph County. The new service will be provided at no charge and initially will focus on the mediation of small-claims disputes and family law cases involving visitation and custody.

Franklin Morse, a certified mediator who formerly practiced with the South Bend law firm of Barnes & Thornburg, will coordinate the mediation clinic in conjunction with the Legal Aid Clinic. Morse will be assisted by Bruce Wells, a third-year Law School student and also a certified mediator.

The grant to establish the mediation service was provided by the Jessie Ball duPont Religious, Charitable and Educational Fund, a national foundation based in Jacksonville, Fla.

Miller Gives Scholarship

Notre Dame has received a \$2,500 scholarship from the J. Edgar Hoover Memorial Scholarship program of the Society of Former Special Agents of the Federal Bureau of Investigation, Inc. This scholarship is a gift from John W. Miller, an FBI agent from 1951 to 1975. The society has made 108 awards to American colleges and universities since the Hoover Memorial Scholarship program began in 1978. The scholarship will be administered by the University's Office of Financial Aid and will be awarded to a deserving undergraduate student in need of financial assistance.

Air Force ROTC Wins Excellence Award

Notre Dame's Air Force ROTC department has been awarded the Air Force Organizational Excellence Award. This competitive award recognizes select Air Force units for sustained superior performance throughout the three-year evaluation period. Particularly noteworthy was the department's success in attracting high-quality applicants in technical academic majors. The department currently has the highest technical enrollment, the largest female scholarship enrollment and the largest overall scholarship enrollment of any Air Force ROTC program in the nation. The academic credentials of the students enrolled in Air Force ROTC at Notre Dame were also a factor leading to the department's selection. The detachment was applauded for creating an atmosphere that directly placed academic achievement as the ROTC cadets' first priority.

Energy Analysis and Diagnostics Center Declared an Industrial Assessment Center

Notre Dame's Energy Analysis and Diagnostics Center which was awarded as the result of a national competition in 1990, has been declared an Industrial Assessment Center by the U.S. Department of Energy. The center's activities have focused on conducting energy assessments for intermediate sized manufacturers. The expanded responsibilities include waste elimination assessments for each of the 30 plants visited each year. The center activities will continue under the direction of William B. Berry, associate chairperson and professor of electrical engineering, and John W. Lucey, associate professor of aerospace and mechanical engineering.

FACULTY NOTES

Honors

Fernand N. Dutile, associate dean and professor of law, has been appointed to the editorial board of the University Press for a term of four years.

Mohamed Gad-el-Hak, professor of aerospace and mechanical engineering, has been designated a member of the National Science Foundation advisory panel for the Small Business Innovation Research Program.

Teresa Ghilarducci, associate professor of economics and fellow in the Urban Institute, has been appointed by President Clinton to the advisory committee of the Pension Benefit Corporation, a federal agency created in 1974 under the Employee Retirement Income Security Act to guarantee payment of basic pension benefits earned by more than 41 million American workers and retirees participating in 58,000 private-sector defined benefit pension plans. She will represent employee organizations as one of the three new appointees on the five-person advisory panel.

Ahsan Kareem, professor of civil engineering and geological sciences, has been invited to serve as a member of the advisory board of the NASA/DOE funded Aerospace/Energy Research and Education Program at Southern University in Baton Rouge, La.

Rev. Richard P. McBrien, Crowley-O'Brien-Walter professor of theology, was interviewed in the Today's Life Choices program "The Soul of a Nation — For God and Country," October 22–23, 1994, which received a 1995 Gabriel Award. McBrien received first place for Popular Presentation of the Catholic Faith in the Catholic Press Association's 1995 book awards for *Catholicism: Completely Revised and Updated* (San Francisco: HarperSanFrancisco, 1994).

John Allyn Melloh, S.M., coordinator of the Marten Program and professional specialist in theology, was elected/appointed to the following boards: Institute for Liturgical Formation, East Brunswick, N.J.; Board of Consultors for Video Preaching Series, St. Meinrad's, Ind.; Steering Committee for Catholic Association of Teachers of Homiletics, Boston, Mass.; and Societas Homiletica, Berlin/Kyoto.

Dean A. Porter, director of the Snite Museum of Art and concurrent professor of art, art history and design, was awarded an honorary doctorate by Valparaiso University in Valparaiso, Ind., Sept. 16.

John E. Renaud, Clark Equipment assistant professor of aerospace and mechanical engineering, was an invited guest at the first annual Frontiers of Engineering symposium hosted by the National Academy of Engineering in

Irvine, Calif., Sept. 21–23. The meeting brought together a select group of the nation's outstanding engineers, ages 30 to 45, from industry, academia and government labs to discuss pioneering technical work and leading edge research in various engineering fields and industry sectors.

Kern Trembath, assistant chairperson and associate professional specialist in theology, was appointed the Indiana State Bicyclist's representative to the advisory board of the Indiana Department of Natural Resources' Indiana Trails 2000.

James VanderKam, professor of theology, received the Biblical Archaeology Society Publication Award for Best Popular Book on Archaeology for *The Dead Sea Scrolls Today*.

Raimo Väyrynen, professor of government and international studies and Regan director of the Kroc Institute, has been reappointed for 1996 as the chairperson of the board at the Centre for Peace and Conflict Research in Copenhagen by the Danish Ministry of Research.

Activities

Joseph P. Bauer, professor of law, gave the invited presentation "Local Market Collaboration" at a conference on Consumerism and Competition sponsored by the Institute for Health Law of Loyola University Chicago School of Law in Chicago, Ill., Oct. 12.

William B. Berry, associate chairperson and professor of electrical engineering, presented the talk "The University of Notre Dame's Electric Vehicle Educational Program" to the Indiana Electric Association's biannual university industry meeting in South Bend, Ind., Oct. 10.

Scott D. Bridgman, assistant professor of biological sciences, presented the paper "Trace Gas Responses in a Climate Change Experiment in Northern Peatlands" and co-authored a second paper titled "Temperature Influences on CO₂ and CH₄ Fluxes in Intact Cores from Minnesota Wetlands" at the annual meeting of Ecological Society of America in Snowbird, Utah, July 28–Aug. 3.

Theodore Cachey, associate professor of Romance languages and literatures, presented the invited lecture "Between Hermeneutics and Poetics: BinBin's Dante Revisited" at the international "Dante e Pound" symposium at the Biblioteca Classense in Ravenna, Italy, Sept. 8–10.

Hsueh-Chia Chang, professor of chemical engineering, presented the invited talk "Wave Dynamics on a Falling Film" at the Copenhagen conference on Dynamics and Pattern Formation in an Extended Domain which was

FACULTY NOTES

organized by Thomas Bohr and held at the Niels Bohr Institute in Copenhagen, Sept. 27-30.

Peter Cholak, McAndrews assistant professor of mathematics, gave the invited talk "Automorphic Recursively Enumerable Sets" at the Logic Colloquium '95 in Haifa, Israel, Aug. 14.

Daniel J. Costello Jr., chairperson and professor of electrical engineering, presented a paper titled "Construction of Trellis Codes at High Spectral Efficiencies for Use with Sequential Decoding" at the IEEE international symposium on Information Theory in Whistler, British Columbia, Sept. 19. He presented a paper titled "On Selecting Code Generators for Turbo Codes" at the 33rd annual Allerton conference on Communication, Control, and Computing in Monticello, Ill., Oct. 5.

Charles Craypo, professor of economics, fellow in the Kellogg Institute and in the Urban Institute, was the research director in the production of a 30-minute documentary film "The Working Poor: Climbing the Down Escalator." The film, which was produced by Golden Dome Productions, won a prestigious award in the 1995 New York Film Festival where it was named "Finalist."

Norman Crowe, professor of architecture, delivered a paper titled "Designing the Man-made World: The Shift to a Surrogate Nature" at the conference Design for the Environment: The Interdisciplinary Challenge at the annual meeting of the Association of Collegiate Schools of Architecture, West Central Regional Conference, at the University of Illinois at Urbana-Champaign, Ill., Oct. 7.

Hilary Cunningham, assistant professor of anthropology, and **Stephen Scharper**, visiting instructor in theology, gave a joint paper titled "From Critique to Commitment: A Neo-Modern Response to the Postmodern Malaise" at the 12th international Social Philosophy conference at Colby College in Waterville, Maine, Aug. 10-13.

Fred R. Dallmayr, Dee professor of government and international studies, presented a paper on "Rights versus Rites: Justice and Cultural Transformation" at an international conference on Modernity, Postmodernity, and Culture held at Seoul National University in Seoul, Korea, June 7-10. He served on a roundtable discussion of the works of the German philosopher Eberhard Grisebach (contemporary of Heidegger) at the University of Jena in Germany, June 22-23. He presented the paper "Return to the Source: African Identity (After Cabral)" at a conference on Political Identity organized by the Political Philosophy section of the International Political Science Association in Harare, Zimbabwe, Aug. 17-19. Dallmayr presented a lecture on "Justice and Global Democracy" at the University of Natal in Durban, South Africa, Aug. 21. He presented a talk on "Post-Liberal Reflections on Jus-

tice" and served as a discussant on a panel on psychoanalysis and political identity at the annual meeting of the American Political Sciences Association in Chicago, Ill., Aug. 31-Sept. 3.

Dennis Doordan, associate professor of architecture, gave a talk titled "Thinking About the Environment: Design and Ecology" at a dinner sponsored by the Saint Joseph Valley Masonry Contractors in South Bend, Ind., Sept. 21.

Julia Douthwaite, associate professor of Romance languages and literatures, presented an invited lecture titled "The Wild Girl, Then and Now: Marie-Angélique and Nell" at Bates College in Lewiston, Maine, Sept. 21.

Michael Driscoll, assistant professor of theology, gave the keynote address "Baptism as Entrance into Vocation and Mission" at the sixth Ministries Conference of the Catholic Diocese of Memphis, Tenn., Sept. 16.

Fernand N. Dutilleul, associate dean and professor of law, presented an invited lecture "The Death Penalty in the United States" to the faculty of the School of Law at the University of Queensland in Brisbane, Australia, June 28.

Harald E. Esch, professor of biological sciences, gave the keynote lecture "Honeybees Measure Distance Optically" at the World Bee Biology meeting in Lausanne, Switzerland, Aug. 16. He gave the invited speech titled "Distance Estimation by Foraging Honeybees" at the Navigation symposium in Cambridge, England, Aug. 31-Sept. 3. He presented the poster "Foraging Honeybees Use Optical Cues to Estimate Distance" at the international Neuroethology meeting in Cambridge, England, Sept. 3-8.

J. Massynbaerde Ford, professor of theology, presented "The Apocalypse and Modern Art" at the Pacific School of Religion, Christians in Visual Arts Conference, in Berkeley, Calif., Aug. 2. She presented "Varying Images of God and Christ" at the Blessed Mother lectures at the University of Notre Dame, Notre Dame, Ind., Aug. 15.

Douglas A. Franson, adjunct instructor in computer applications and systems manager of the Graduate School, coauthored the poster session titled "Electronic Research Administration: A Campus Experience with a Federal Feasibility Study" at the Society of Research Administrators annual meeting in Chicago, Ill., Oct. 7-11.

Abbot Astrik L. Gabriel, director and professor emeritus in the Medieval Institute and director of the Folsom Ambrosiana Collection, gave the lecture "Origin of Catholic Universities in the United States. Dynamic Forces in Transmission of Philosophical and Theological Studies to the New World" at the XVIIIth international congress of Historical Sciences, Commission on History of Universities, in the Palais du Congress at Montréal,

FACULTY NOTES

Québec, Canada, Aug. 31. In his lecture, he commented on the merits of the Congregation of the Holy Cross in founding Notre Dame and noted the early good reputation of its library. Bishop John J. Keane studied Notre Dame's statutes to compose those of the Catholic University of America. Gabriel paid homage to Philip S. Moore, C.S.C., and Joseph N. Garvin, C.S.C., for their efforts in founding one of the earliest Medieval Institutes in the United States, efficient origin in the transfer of Catholic philosophical and theological studies to the New World.

Mohamed Gad-el-Hak, professor of aerospace and mechanical engineering, gave the invited talk "Research/Education at the 4-Year College: Potpourri of Thoughts" at the annual meeting of the advisory board of the NASA/DOE Aerospace/Energy Research and Education Program at Southern University in Baton Rouge, La., Oct. 5-6.

Alejandro Garcia, assistant professor of physics, gave the invited talk "Using the Nucleus to Check the Standard Electroweak Model" at TANDAR Laboratory in Buenos Aires, Argentina, July 27.

Denis Goulet, O'Neill professor of economics, delivered a paper "On Ethical Economics" to the conference Ethics and Spiritual Values and the Promotion of Environmentally Sustainable Development held at the World Bank in Washington, D.C., Oct. 2.

Douglas C. Hall, Clark assistant professor of electrical engineering, presented the invited seminar "High Power Semiconductor Optical Amplifiers" to the Department of Physics at Miami University in Oxford, Ohio, Sept. 20.

Paula Higgins, associate professor of music, gave the invited paper "'Meet Me at the Met': Opera and the New Hollywood Masculinity" at the conference Representations of Gender and Sexuality in Opera funded by the National Endowment for the Humanities at the State University of New York at Stony Brook, N.Y., Sept. 14-17.

Carlos Jerez-Farrán, associate professor of Romance languages and literatures, chaired the session "Modern Spanish Poetry" and presented "Paralelos temáticos y semióticos entre *Go West* de Buster Keaton y *El paseo de Buster Keaton* de García Lorca" at the University of Kentucky in Lexington, Ky., April 20-22. He presented "Perspectivas feministas en la obra de Valle-Inclán" at the Asociación Hispánica de Humanidades, I Congreso Internacional, in Madrid, Spain, Aug. 2. He presented "'Anima Muliebris Virile Corpore Inclusa': XIXth century medico-sexual theories in *El público* by García Lorca" at the mid-American conference on Hispanic Literature at the University of Colorado in Boulder, Colo., Oct. 13.

Sophia K. Jordan, associate librarian, presented "All About Paper" to Questors at the Indiana spring conven-

tion, Chapter #196, at the University of Notre Dame, Notre Dame, Ind., April 1. She gave the invited presentation "Planning and Administrative Efforts on the International Scene" to the Preservation Microfilming Discussion Group and the Slavic and East European Section at the American Libraries Association 1995 annual conference in Chicago, Ill., June 25-26. She was selected as a participant in Christopher Clarkson's "Monastic of Lay Bindings: Display of Books of Manuscripts of Aspects of Book Conservation" funded by the Andrew W. Mellon Foundation and sponsored by the University of Iowa in Iowa City, Iowa, July 31-Aug. 5.

Ahsan Kareem, professor of civil engineering and geological sciences, cochaired the technical sessions "Probabilistic Methods in Wind Engineering" and "Novel Experimental Techniques for the Evaluation of Wind Effects on Structures" at the 10th American Society of Civil Engineers Engineering Mechanics Specialty Conference held at the University of Colorado in Boulder, Colo., May 21-24. Kareem and his students presented the following four papers at that conference: "Wind Effects: A Non-Gaussian Perspective" by K. Gurley, Kareem and M.A. Tognarelli; "New Notre Dame Boundary Layer Wind Tunnel With Multiple Jets in a Turbulence Generation Box" by F. Hahn, Kareem and A.A. Schewczyk; "Quadrization and Cubicization: Analysis Tools for Offshore Applications" by Tognarelli, Kareem, J. Zhao and K.B. Rao; and "Numerical Experiments in Ringing and Springing of Offshore Platforms" by Gurley and Kareem. Kareem presented a technical program concerning engineering mechanics at the structures congress at the Office of Skidmore Moore Owing in Chicago, Ill., June 2.

Peter M. Kogge, McCourtney professor of computer science and engineering, presented the paper "Combined DRAM and Logic Chip for Massively Parallel Systems" at the 16th conference on Advanced Research in VLSI in Chapel Hill, N.C., March 27-29. He gave the paper "The Real Time Artificial Intelligence System" at the IEEE national Aerospace and Electronics conference in Dayton, Ohio, May 22-26.

Pamela A. Krauser, assistant professional specialist in the Graduate School, coauthored and presented the poster session titled "Electronic Research Administration: A Campus Experience with a Federal Feasibility Study" at the Society of Research Administrators annual meeting held in Chicago, Ill., Oct. 7-11.

Charles F. Kulpa, associate dean of science, professor of biological sciences and director of the Center for Bioengineering and Pollution, presented the invited talk titled "Microbial Desulfurization of Petroleum, Aerobic and Anaerobic Mechanisms and Potential Applications" in the symposium on Environmental Biotechnology:

FACULTY NOTES

Bioremediation and Bioprevention at the annual meeting of the Japan Society for Bioscience, Biotechnology and Agrochemistry in Sapporo, Japan, Aug. 3, and at the Petroleum Environmental Center in Shimizu, Japan, Aug. 7. He presented an invited talk titled "Anaerobic Transformation of TNT" at the American Chemical Society symposium Emerging Technologies for Hazardous Waste Treatment in Atlanta, Ga., Sept. 17-18.

Ruey-wen Liu, Freimann professor of electrical engineering, presented "Blind Channel Equalization for Wireless Communication" at the meeting of the CAS Chapter of the IEEE United Kingdom and Republic of Ireland Section in London, England, Sept. 26.

A. Eugene Livingston, professor of physics, presented a colloquium titled "Measurements of Relativistic and QED Atomic Structures in Highly-Charged Ions" at Kansas State University in Manhattan, Kans., Sept. 28. He presented a seminar titled "Measurement of QED Contributions in Helium-like Ar^{16+} " at the University of Nebraska in Lincoln, Nebr., Sept. 29.

George A. Lopez, professor of government and international studies and fellow in the Kroc Institute, presented the remarks "Policy Choices in Economic Sanctions" at a Congressional luncheon symposium on Economic Sanctions and International Relations cosponsored by the Kroc Institute and the Fourth Freedom Forum of Goshen, Ind., May 25.

John M. LoSecco, professor of physics, chaired the Saturday morning session at the International School of Nuclear Physics in Erice, Sicily, Italy, Sept. 23. He contributed the paper "Studying the Quark-Antiquark Force with Inelastic Pion Electron Scattering" and gave an invited talk "Search for Exotic Mesons at Brookhaven" at that school.

Lawrence C. Marsh, associate professor of economics, presented a paper titled "Bayesian Optimal Promotional Activity for Firms Facing Discrete Product Demand" with Professor Arnold Zellner of the University of Chicago to the Third World meeting of the International Society for Bayesian Analysis in Oaxaca, Mexico, Sept. 30. The meeting was officially sponsored by the governor of the State of Oaxaca who gave the inaugural talk to the participants at the banquet dinner that began the conference. Marsh's paper was cited for its originality and importance in advancing the theory of the firm.

A. James McAdams, associate professor of government and international studies, chaired the panels "The Foreign Policy in the United Germany" and "Stages of Vergangenheitsbewältigung: From the Stunde Null to the Post-Wende" at the annual meeting of the German Studies Association in Chicago, Ill., Sept. 22.

Rev. Richard P. McBrien, Crowley-O'Brien-Walter professor of theology, presented "The Making of an Encyclopedia of Catholicism" at the Religious Booksellers Trade Convention in Westmont, Ill., June 2. He presented "The Church: Community of Communities" at the John Neumann Summer Institute at the Sacred Heart School of Theology in Hales Corners, Wis., July 31.

James L. Merz, Freimann professor of electrical engineering, gave the invited paper "Optical Properties of Self-Assembled Quantum Wires and Quantum Dots" at the 188th meeting of the Electrochemical Society, Inc., in Chicago, Ill., Oct. 8-13.

Anthony N. Michel, McCloskey dean of engineering and Freimann professor of electrical engineering, Ling Hou and Hui Ye presented the papers "Some Stability Results for Nonlinear Sampled-Data Control Systems" and "Global Stability and Local Stability of Cohen-Grossberg Neural Networks with Multiple Delays" at the 33rd annual Allerton conference on Communication, Control and Computing at the University of Illinois in Urbana-Champaign, Ill., Oct. 4-6.

Thomas J. Mueller, chairperson and Roth-Gibson professor of aerospace and mechanical engineering, was a member of the international organizing committee for the seventh international symposium on Flow Visualization and the coauthor with D.F. Sharp of a paper presented titled "Propeller Flow-field Visualization Using Smoke Injection and Naphthalene" in Seattle, Wash., Sept. 11-14.

Ellen O'Connor, associate professional specialist in the College of Business Administration, presented a paper titled "Lines of Authority: Readings of Foundational Texts on the Profession of Management" at the 1995 annual meeting of the Academy of Management held in Vancouver Canada, Aug. 6-9. She chaired the symposia "Out of Bounds: Nontraditional Research Approaches to Organization Studies" and "Language and Organizational Action" at that meeting.

Rev. Hugh R. Page Jr., assistant professor of theology, presented the lectures "The Hebrew Bible and Anthropology: A Primer for Research in the Third Millennium" and "Early Hebrew Poetry and the Culture of Ancient Israel" at the Explorations in Bible and Archaeology Society in Chicago, Ill., Sept. 14.

Ellen D. Rogers, assistant professional specialist in the Graduate School, coauthored and presented the poster session titled "Electronic Research Administration: A Campus Experience with a Federal Feasibility Study" at the Society of Research Administrators annual meeting in Chicago, Ill., Oct. 7-11.

FACULTY NOTES

Joachim Rosenthal, associate professor of mathematics, presented the paper "First Order Representations for Convolutional Encoders," a joint paper with Eric York, at the 1995 IEEE international symposium on Information Theory in Whistler, B.C., Canada, Sept. 17-22.

Kern Trembath, assistant chairperson and associate professional specialist in theology, gave the speech "Should Colleges Be the Minor Leagues for the NBA and NFL? — No!" to the Optimist Club of Warsaw, Ind., Oct. 2.

Anthony M. Trozzolo, assistant dean of science and Huisking professor emeritus of chemistry and biochemistry, presented the American Chemical Society Ozark lecture "Photochromism — Molecules that Curl Up and Dye" to the University of Missouri ACS Section in Columbia, Mo., Sept. 25; to the Ozark ACS Section in Springfield, Mo., Sept. 26; and to the Southern Illinois ACS Section in Cape Girardeau, Mo., Sept. 28. He presented "Creation and Detection of Organic Intermediates by Matrix Isolation" to the South Central Missouri ACS Section in Rolla, Mo., Sept. 27.

Chris VandenBossche, associate professor of English, presented the paper "Carlyle's Prophetic History and the Rhetoric of Social Criticism" at the Victorians Institute at the University of South Carolina in Columbia, S.C., Oct. 13-14.

James VanderKam, professor of theology, lectured on "The Dead Sea Scrolls: Implications for Judaism and Christianity" at the University of Wisconsin in Oshkosh, and the University of Wisconsin in Madison, Wis., May 2-3. He gave the Winslow lecture "Interpretations of Genesis in the Scrolls" at the Seabury-Western Theological Seminary in Evanston, Ill., May 16. He gave "The Calendar, 4Q327 and 4Q394" at the International Organization for Qumran Studies in Cambridge, England, July 17.

Arvind Varma, Schmitt professor of chemical engineering, chaired the session titled "Reactor Operation with Flow Reversal" at the second international conference on Unsteady-State Processes in Catalysis held in St. Louis, Mo., Sept. 11-13. Varma and **Mark J. McCready**, associate professor of chemical engineering, coauthored a paper titled "Influence of Pulsing Frequency on Performance of Three-Phase Packed-Bed Reactors" presented at the conference by doctoral candidate Ruiyun Wu.

Raimo Väyrynen, Regan director of the Kroc Institute and professor of government and international studies, presented the paper "Preventing Deadly Conflicts: Global and European Perspectives" in the second Pan-European conference on International Relations in Paris, France, Sept. 13-16. He presented the paper "Towards a Stable Peace in the Former Yugoslavia: National and International Strategies" in a symposium organized by the Croatian Peace Research Association in Zagreb, Oct. 3-4.

Joannes J. Westerink, associate professor of civil engineering and geological sciences, presented the invited conference abstract "Unstructured Mesh Design and Error Assessment for Surface Water Flow Models" coauthored with R.A. Luettich at the workshop on the Next Generation Environmental Models Computational Methods at the U.S. Environmental Protection Agency National Environmental Supercomputing Center in Bay City, Mich., Aug. 7. He gave the invited paper "Issues in Convergence Studies in Geophysical Flow Computations" coauthored with P.J. Roache at the joint ASME/JSME Fluids Engineering conference in Hilton Head, S.C., Aug. 17. Westerink chaired a conference session and presented the invited abstract "Analysis of Boundary Conditions for Shallow Water Equation Models" coauthored with R.L. Kolar at the Coastal Engineering 95 in Cancun, Mexico, Sept. 6.

James F. White, professor of theology, gave the Elmer T. Cook lecture "Thirty Years of American Church Architecture" at Lancaster Theological Seminary in Lancaster, Pa., April 4. He presented "From Protestant Plain Style to Catholic Plain Style" in the Calvinism and the Visual Arts conference at the Center of Theological Inquiry in Princeton, N.J., May 8. He lectured on "Worship Changes in the U.S. since 1960" and "History of Reformed Worship" at Calvin College, Grand Rapids, Mich., July 17-18.

Eduardo E. Wolf, professor of chemical engineering, presented the paper "Scanning Probe Microscopy and XPS Studies of the Deactivation of Pd Model Catalysts by Sulfur Compounds" coauthored with K-H. Lee at the Microscopy Society of America meeting in Kansas City, Mo., Aug. 17. He presented "Scanning Probe Microscopy Studies of Catalysts Activation and Deactivation" coauthored with Lee and R. Catani and "Design of Novel Catalysts Based on Molecular Clusters" coauthored with A. Patil, M. Banares, X. Lei and **Thomas Fehlner**, Grace-Rupley professor of chemistry, at the second European congress on Catalysis in Maastricht, The Netherlands, Sept. 3-8. Wolf coauthored "Effect of Forced Oscillations on the Thermal Front Propagation during Oxidation Reactions on Supported Catalysts" presented by Q. Feng at the second international conference on Unsteady State Processes in Catalysis in St. Louis, Mo., Sept. 10-13. Wolf presented a seminar titled "Transient Studies of Methane Conversion on Metalloxy Catalysts" at the Chemical Engineering Department of the Worcester Polytechnic Institute in Worcester, Mass., Oct. 2. He presented a talk titled "Design of New Catalysts from Molecular Clusters of Clusters" at the fall meeting of the New England Catalysis Society at the Worcester Polytechnic Institute, Oct. 2.

Dean Zimmerman, assistant professor of philosophy, presented the paper "Chisholm and the Essences of Evens" in a colloquium at the Pacific Division meetings of the American Philosophical Association in San Francisco, Calif., March 30.

ADMINISTRATORS' NOTES

Appointments

Roger V. Mullins, director of human resources since 1985, has been promoted to associate vice president for human resources. As the chief administrator of human resources for the University, Mullins directs all activities relating to employment, compensation and benefits, affirmative action in employee hiring, employee relations, and employee training and development, as well as the University's wellness programs. He was the architect of recent major changes in Notre Dame's benefit programs, notably the adoption of a preferred provider health care option.

Honors

Kitty Arnold, director of Career and Placement Services, was selected as the first chairperson of the newly established National Profession Development Coordinating Committee of eight professional associations serving college career services and corporate college relations professionals. She represents the National Association of Colleges and Employers and currently serves on that association's Board of Governors.

Activities

Iris Outlaw, director of Multicultural Student Affairs, and Adele Lanan, assistant director of Student Activities, presented "Diversity: What Does It Have To Do with Me?" at the conference Educating One-Third of a Nation V: Constructing the Next American Dream sponsored by the American Council on Education, Office of Minorities in Higher Education, with the principal support from the Aetna Foundation in Kansas City, Mo., Oct. 18-21.

Timothy Truesdell, director of development research, presented "Corporate and Foundation Research on the Internet" and "Policies and Procedures in the Development Office" to the Indiana chapters of the National Society of Fund Raising Executives and the Association of Professional Researchers for Advancement at their joint Fund Raising Day observance in Indianapolis, Ind., Sept. 15.

Publications

Alan S. Bigger, director of building services, wrote the article "Maintain Hard Surfaces Without Being 'Floored'" published in the September issue of *Maintenance Solutions*. Bigger and Linda Thomson, assistant director of purchasing, coauthored "What You See . . . May Not Be What You Get?: Making Cleaning Professionals Purchasing Winners" published in the October issue of *Executive Housekeeping Today*. Bigger and Thomson coauthored the article "Beyond Recycling: Getting Off Dead Center" published in the fall issue of *Facilities Manager*.

University of Notre Dame Assessment Plan

Introduction

In the following report, we describe the conceptual framework for the assessment initiative at the University of Notre Dame. Next, we state the mission statement of the University and the goals of undergraduate education at Notre Dame. Then we present a schedule of components for a Notre Dame assessment program. In appendices, we present in more detail some of the work of the Assessment Committee.

The Assessment Committee

In September of 1994, the provost appointed an assessment committee consisting of five faculty members from the Curriculum Committee (A. Graham Lappin, professor and chair, chemistry and biochemistry; Scott Maxwell, professor of psychology; Mark McCready, associate professor of chemical engineering; Ken Milani, professor of accountancy; Dian Murray, associate dean and professor of history) and Associate Provost Kathleen Cannon, O.P. The committee's task was to develop a plan for the assessment of student academic achievement. Recognizing Notre Dame's tradition of excellence in undergraduate education and the success of our programs, the committee developed several working assumptions during its initial meetings. Among the most important were:

- (1) that faculty know best how to evaluate the quality of the learning process; and
- (2) that individual faculty members, as well as departments already undertake assessment because they want to improve the quality of their educational programs.

Since the faculty of the University have long been committed to judging students according to the highest standards and to using appropriate means to determine the level of achievement each student has reached, the committee decided not to hire an outside consultant or to create an administrative position for a specialist to develop a plan. These decisions then placed assessment in the instructional environment and approached it as a natural part of the teaching and learning process.

The University Mission Statement

In keeping with its tradition of having a major evaluation and critical study of the institutional mission every 10 years, the University initiated an intense study and review in 1992-93 called Colloquy for the Year 2000.

The Final Report for the Colloquy describes the mission of the University in the following way:

The University of Notre Dame is a Catholic academic community of higher learning, animated from its origins by the Congregation of Holy Cross. The University is dedicated to the pursuit and sharing of truth for its own sake. As a Catholic university one of its distinctive goals is to provide a forum where through free inquiry and open discussion the various lines of Catholic thought may intersect with all the forms of knowledge found in the arts, sciences, professions, and every other area of human scholarship and creativity.

The intellectual interchange essential to a university requires, and is enriched by, the presence and voices of diverse scholars and students. The Catholic identity of the University depends upon, and is nurtured by, the continuing presence of a pre-dominant number of Catholic intellectuals. This ideal has been consistently maintained by the University leadership throughout its history. What the University asks of all its scholars and students, however, is not a particular creedal affiliation, but a respect for the objectives of Notre Dame and a willingness to enter into the conversation that gives it life and character. Therefore, the University insists upon academic freedom which makes open discussion and inquiry possible.

The University prides itself on being an environment of teaching and learning which fosters the development in its students of those disciplined habits of mind, body and spirit which characterize educated, skilled and free human beings. In addition, the University seeks to cultivate in its students not only an appreciation for the great achievements of human beings but also a disciplined sensibility to the poverty, injustice and oppression that burden the lives of so many. The aim is to create a sense of human solidarity and concern for the common good that will bear fruit as learning becomes service to justice.

Notre Dame also has a responsibility to advance knowledge in a search for truth through original inquiry and publication. This responsibility engages the faculty and students in all areas of the University, but particularly in graduate and professional education and research. The University is committed to constructive and critical engagement with the whole of human culture.

The University encourages a way of living consonant with a Christian community and manifest in prayer, liturgy and service. Residential life endeavors to develop that sense of community and of responsibility that prepares students for subsequent leadership in building a society that is at once more human and more divine.

Notre Dame's character as a Catholic academic community presupposes that no genuine search for the truth in the human or the cosmic order is alien to the life of faith. The University welcomes all areas of scholarly activity as consonant with its

mission, subject to appropriate critical refinement. There is, however, a special obligation and opportunity, specifically as a Catholic university, to pursue the religious dimensions of all human learning. Only thus can Catholic intellectual life in all disciplines be animated and fostered and a proper community of scholarly religious discourse be established.

In all dimensions of the University, Notre Dame pursues its objectives through the formation of an authentic human community graced by the Spirit of Christ.

At the beginning of the 1993-94 academic year the provost visited each department of the University and requested that each department formulate a plan which would reflect its purpose within the overall mission of the University. All departmental mission statements were reviewed and discussed by the Provost's Advisory Committee in the summer of 1994.

Learning Goals

The University's mission statement provides a rich and intellectually stimulating sense of purpose for the University and serves as the basis for any assessment efforts. Nonetheless, as is true of most mission statements it was not constructed with intended outcomes that would allow the University to measure in a systematic and quantifiable way the extent to which it is achieving its purpose.

The assessment committee therefore set out to translate the mission statement into measurable areas of knowledge, skills and values. The committee conceptualized the goals of the mission statement in terms of four broad learning goals with specific learning outcomes, related to these goals. These have been reiterated as follows in all communication with the departments of the University:

The University of Notre Dame seeks to develop students who:

1. Pursue knowledge and evaluate its consequences
 - i. Think critically, abstractly and logically to evaluate and solve problems;
 - ii. Integrate new information to formulate principles and theories and display an openness to different viewpoints;
 - iii. Share the desire for intellectual creativity and the acquisition of knowledge
2. Communicate clearly and effectively
Can convey information clearly and succinctly in both written and oral forms
3. Demonstrate knowledge and abilities in chosen areas of study
 - i. Develop an understanding of resources and procedures of fields and the ability to use them;

ii. Possess an appropriate core of knowledge in chosen fields

4. Appreciate their social and moral responsibilities
 - i. Reflect upon the spiritual, moral and ethical dimensions of life;
 - ii. Display the moral dimensions of their decisions and actions
 - iii. Contribute to society as an active member

Faculty Involvement

In addition to the composition and extensive work of the Assessment Committee itself, there were various opportunities for faculty involvement in the development of the assessment plan. Indeed, the first phase of the plan was to take stock of what is already being done to enhance student learning. Departments were provided with the four broad learning goals and the specific learning outcomes related to these goals and asked to identify the methods they use to evaluate the goals as well as the effectiveness of their academic programs. Because of the value placed on the flexibility to express diverse needs and interests, each department was free to devise its own method of response. Some departments engaged the entire department in discussion; others deputed the responsibility to a committee and/or the director of undergraduate studies. While the responses received shared some common themes, they also reflected considerable diversity. A summary of the findings of this survey is reported in Appendix 1.

After the Assessment Committee had thoroughly reviewed the responses, a report of the findings was given to departments. The report contained a review of the process, a general overview of the findings, and examples from specific departments of how assessment might be approached. In addition, meetings were held with department chairs in the College of Arts and Letters and the Science College Council to discuss the issues that emerged and to solicit suggestions for the next stages of the process.

Thus, Phase I (1994-95) of assessment included formulating a list of goals for undergraduate education at Notre Dame, surveying departments, analyzing and reporting on the measures departments think might be taken to improve the effectiveness of teaching and learning, and setting out within broad parameters a framework for a University assessment program.

Proposed Assessment Activities

Phase II (1995-96) of the assessment plan combines departmental participation in a campuswide assessment of academic advising with more specialized projects developed at the departmental and/or college council level.

DOCUMENTATION

The first component, formulated at the level of the Provost's Office, has the advantage of getting every department involved in thinking about assessment. The second component, initiated at the level of college councils, includes the assessment of curriculum areas pertaining to undergraduate general education. This component allows for individual faculty to conduct assessment activities targeted specifically toward departmental interests and concerns.

Phase II then has two parts:

- 1) a University-wide assessment of academic advising initiated by the provost;
- 2) specific assessment projects formulated by each college council.

For Part (2) each college council is charged to select at least one additional assessment project. The pilot project(s) might be related to the development and evaluation of new courses required by the Curriculum Report or they might be chosen from those projects identified through the fall 1994 survey.

The Assessment Committee recognizes that this "bottom up" approach will be more chaotic but it believes that it is also more likely to produce true involvement from interested faculty and thus has more potential to result in ongoing long-term assessment activities. It is also consistent with the committee's decision to embrace a formative model of assessment and with its conviction that the University should not rely on single methods but rather a series of methods that investigate multiple issues.

The table below suggests some of the assessment activities proposed for this phase. It shows the progression of activities and outlines the time line for the program.

ALL COLLEGES

Date / Agent / Action

Fall '95 / Provost / Survey in all departments of student satisfaction with academic advising; report to academic units and to Undergraduate Studies Committee of Academic Council

Fall '95 / All departments / Review report and make changes to foster faculty-student interaction

Fall '95 / Provost and Director of Teaching and Learning Center / Report to Academic Council on efforts to assist students to become library literate and independent critical thinkers

Fall '95 / Deans / Report to Academic Council on plans to supplement large classes with tutorials, labs or other experiences

Fall '95 / College Councils / Assessment of requirements for honors at graduation; report to undergraduate committee of Academic Council

Fall '95 / College Councils / Discussion of possibility of courses which present a variety of cultural traditions and perspectives

Fall '95 / Deans / Report on above to Academic Council

SCIENCE

Fall '95 / Dean / Charge faculty to develop additional courses of a topical nature especially in the areas of chemistry and the biological sciences; report to Academic Council

Fall '95 / Dean / Assess lower-level math courses; redesign courses to better serve the needs of AL and BA students

Spring '96 / Math Department / Introduce redesigned math courses

Spring '99 / Math Department / Evaluate effectiveness of new lower-level math courses

ENGINEERING

Fall '95 / Dean / Charge faculty to develop electives in various areas of technology for non-engineering students; report to Academic Council

FRESHMAN YEAR OF STUDIES

Fall '95 / Dean (chair ad hoc committee) / Assess goals of Composition and Literature Course (109); report to Academic Council

ARTS AND LETTERS

1995-96 / Dean / Charge faculty to develop Arts and Letters University Seminars to replace Freshman Seminar

1996-97 / Dean / Introduce approximately 33 new Arts and Letters University Seminars

2000-2001 / Undergraduate Studies Committee / Assess University Seminars to see if expansion of seminar program is feasible

ACADEMIC COUNCIL

Fall '95 / Subcommittee of Undergraduate Committee / Charge college councils to do detailed study of requirements for honors at graduation with the goal of incorporating a significant research project or theses as a component

DOCUMENTATION

Spring '96 / Undergraduate Committee / Report on above to Academic Council

Annually / Undergraduate Studies Committee / Review goals of general education and the courses and structures which seek to realize these goals

Phase III Spring/Summer 1996 through 1996-97 Academic Year

The goal for Phase III is for each college council to devise and implement at least one assessment project identified through the college council in Phase II. Once the college council has selected the goal that most interests them, that goal will function as a strategy for the development of a plan, study or pilot project. Although experts, including the director of the Teaching/Learning Center, may be engaged as needed, faculty will have complete responsibility for designing and implementing these assessment projects. Project design will involve:

- 1) selecting or developing appropriate assessment strategies;
- 2) describing any data to be collected and the methods by which it will be analyzed;
- 3) indicating how results will be used (e.g., conclusions linked with curriculum, instruction, advising, etc.);
- 4) implementing the plan;
- 5) analyzing and reporting findings;
- 6) using the results to improve academic courses and programs.

The assessment committee has recommended that funds be made available for incentives that would provide additional resources for colleges which wish to go beyond what they can do with existing resources to understand and improve student learning. This could provide summer stipends for those who design the plan.

Although this phase is designed to extend through the 1996-97 academic year, it is quite possible that individual units will take initiatives on their own in advance of this date. A copy of the guidelines to deans and college councils is provided in Appendix 2.

Phase IV 1997-98

Two major projects are proposed for this phase of the University's assessment program. The first is a review by the Undergraduate Studies Committee of the Academic Council of the goals of general education and the courses and structures which seek to realize these goals. The second is the incorporation of an assessment of the major into department/program review. These regularly scheduled external reviews provide a natural vehicle to get departments involved in new assessment efforts in the major and to examine existing information from campus assessment efforts.

Conclusion

The results of these assessment activities will be used to facilitate curricular and program modifications as well as to make improvements in the assessment program itself. If assessment is to be successful in leading to continuous improvement, it has to be understood as an ongoing undertaking which will continue after the completion of the four phases described above. The specific goals to be addressed will emerge from the discoveries of the first phases. Phase III, in fact, will occur in parallel with the next round of projects so there is simultaneous assessment of one aspect of teaching and planning and investigation of another.

Since this plan is associated with student academic achievement, indicators such as alumni surveys, retention studies, enrollment analyses, etc., will continue to be used and results will be monitored. Here the regular studies of various data provided by the Office of Institutional Research will provide another component to guide decision makers. With these initiatives, we hope to improve the effectiveness of teaching and learning and to ascertain how well we are accomplishing our mission and purposes.

Appendices

APPENDIX 1

Summary of findings of survey of departments - Fall 1994
May 4, 1995

Dear Department Chairperson,

The Assessment Committee has spent considerable time reviewing the responses to our request for input on how academic departments evaluate the quality of their programs. We appreciate your responses and now want to give you some report of our findings.

As our previous letter indicated, the task of this committee has been to consider how the assessment process can enhance the learning environment in ways that would address the specific goals expressed in the University mission statement. In that letter, the committee conceptualized these goals in terms of four broad categories that included:

- 1) Pursue knowledge and evaluate its consequences
- 2) Communicate clearly and effectively
- 3) Demonstrate knowledge and abilities in a chosen area of study
- 4) Appreciate social and moral responsibilities

DOCUMENTATION

When we solicited your input last October, the Committee made several assumptions. The most important one was that faculty know best how to evaluate the quality of the learning process. We also assumed that individual faculty members, as well as departments, already undertake assessment because they want to improve the quality of their educational programs. Working on these assumptions, we decided to view assessment as having to do with qualitative improvement (i.e., enhancement of learning) rather than external reporting (measurement of outcomes or value added component). It was clear then that gathering information on what is already being done to enhance student learning would serve us better than proposing large scale testing methods. That led to the survey of departments.

The responses we received shared some common themes, but also reflected considerable diversity. They gave us a sense of the status of assessment in the University at the present time. We found that formal departmental assessment was a more familiar exercise for those units that undergo professional accreditation reviews such as engineering and business administration. However, no department has a generally applicable strategy and it is clear that no single strategy will be applicable to every department. Furthermore, a problem occurs since the links between the tools available for measuring the performance of our students and curricular and structural changes which will lead to educational improvement are not particularly well defined.

Before proceeding to the next stage in the development of an assessment plan, it might be useful to know what is already going on across the University. Some general observations follow:

- Most departments reported that their fundamental assessment tool is the grade a student attains in a course. While grades are used to measure a variety of learning goals, however, it is not clear what the grade itself represents or how an analysis of student grades will lead to improvements in the educational process.
- Capstone projects such as undergraduate research in the College of Science, a design and research project in the College of Engineering or a senior thesis essay or research seminar in the College of Arts and Letters were frequently cited as a measure of the degree to which our students integrate the various components of a Notre Dame education.
- With regard to the category "appreciate social and moral responsibilities" only two departments mentioned the honor code as a relevant aspect. Moreover, units in business, engineering and science deferred to the courses in Philosophy and Theology. A number of units in Arts and Letters, however, responded that appreciation of

these responsibilities derives from these concerns being aired in class which often raise issues of political responsibility, religious faith, and individuals and communities. Other units try to "help the students see the connections between their study and the spiritual, moral, and ethical dimensions of life." Some units mentioned encouraging their students to participate in the activities of the Center for Social Concerns, campus liturgical functions, and volunteer activities.

- One of the most revealing differences which appeared in the responses relates to the central issue of how departments quantify the development of students. How do departments determine if a student as a senior is farther along a given trajectory than as a sophomore? In some areas (e.g., the sciences, social sciences, business, languages, engineering) the pursuit or accumulation of knowledge comes about almost naturally through a series of sequenced courses based on content where one class builds upon the knowledge of the previous one. The acquisition of skills is also cumulative and many classes are segregated by student level or difficulty of subject matter. In other areas, principally in the Humanities, sequencing is not the norm. Thus there is little segregation and a variety of means including essays, theses, and student portfolios are used to evaluate the student's progress.

In a separate attachment we include some examples from specific departments of how assessment might be approached. Hopefully they will provoke some ideas for assessment in your own department.

At this time, we feel the University Assessment Plan should focus on:

- 1) Continuation and improvement of on-going departmental activities designed to enhance educational experience
- 2) Inclusion of an evaluation of on-going departmental assessment activities as part of the annual department report
- 3) Developing new systematic assessment activities
- 4) Devising a schedule that would assure review of departmental assessment activities by the Provost on a regular basis (e.g., every three years)

As we move to the next stage of developing an assessment plan, it is our intention to meet with College Councils to report on the Committee's work, to discuss the issues that have emerged, and to solicit suggestions for the next stages of the process.

Thank you again for your interest and participation.

Sincerely,

Sr. Kathleen Cannon, O.P.
Associate Provost

DOCUMENTATION

Assessment Committee Members:

A. Graham Lappin
Scott Maxwell
Mark McCready
Ken Milani
Dian Murray

EXAMPLES OF ASSESSMENT PROJECTS

College of Science

- Chemistry and biochemistry is concerned with the writing and communication skills of its students. There is a suspicion that these skills regress as the students go through the program. Restructuring the undergraduate seminar in chemistry could make it a teaching tool and an effective means of developing the skills of our students. The department would require students to demonstrate increased abilities to integrate chemical concepts and increased preparation (on-line data searching) and communication skills in successive years in the program. A significant writing component would also be introduced. The effect of these changes would be monitored in other courses in the department.

- An example from the College of Science deals with the problems of transferring knowledge and skills from one discipline to another. For example, how well do students integrate their knowledge of calculus into physics and chemistry courses? One particular area, which has been highlighted recently, addresses the difficulties biology majors experience in integrating the chemistry which underlies the molecular basis of modern biology. A new program, funded by the Howard Hughes Medical Foundation, was initiated for sophomores in 1993. Evaluation of the program is limited and is principally dependent on surveys of student opinions. As the College of Science looks to the development of a new Science Teaching Center on Campus, with attendant possibilities for closer integration of teaching in different disciplines, some better measure of the impact of these changes on student performance in subsequent courses within their major is highly desirable.

College of Engineering

- A statement heard often in the College of Engineering is that students entering college today have much poorer backgrounds in science and mathematics than they did 10 or 15 years ago. This is attributed to declines in quality of K-12 schooling and changes in the priorities of society. While it is not voiced as loudly, many faculty agree that engineers who graduate today in the middle to bottom of the class, are likewise not as good as 10 to 15 years ago. If this is true, and if it is true at most universities, it may

cause serious consequences for both U.S. industrial competitiveness and public safety.

- In light of this statement (or any comparable issues), a possible assessment project for engineering departments would be to develop a proficiency test for seniors that would examine general engineering skills for a specific discipline and possibly include some specific topical areas. It could be written or oral and it would be administered to all or part of the senior class. Once the test has been refined and some baseline data acquired, changes in the curriculum or specific courses would be made with the intent of remedying the problem described above or addressing some other pressing issue. The exit test would then be used in subsequent years to judge whether changes in the curriculum and courses have improved the quality of the students.

- In the questionnaire sent to departments last fall, a response by many departments in science and engineering regarding their efforts to aid in the moral and ethical development of students was that the University philosophy and theology requirements were assumed to take care of it. However, the philosophy and theology departments did not take ownership of students' ethical and moral development in their responses. Consequently, a project for individual departments could be to examine this issue to determine if there is a need for inclusion, in their own curricula, of material that could raise students' ethical conscience. For example, there are study modules developed for engineers that place students in roles as newly hired engineers where there is direct conflict between economic well-being and moral issues. These can be used in class discussions. Unfortunately, it is difficult to verify if students benefit from these exercises other than by asking them if they felt the discussions were worthwhile.

College of Arts and Letters – Social Sciences

- The psychology department recently instituted a senior honors thesis involving original empirical research as an option for a small group of outstanding majors each year. The department could assess the effects of this new program in several ways. For example, the percentage of these students choosing to pursue graduate study in psychology could be compared to the percentage of comparable students in the years immediately preceding the onset of this option. As these students reach the completion of their graduate programs, the department could survey them to assess the extent to which these students believe that the honors thesis helped prepare them for graduate school. In addition, the department could interview these honors students at the completion of their senior year to learn from them at that point in their education how they perceive the strengths and weaknesses of the honors option.

DOCUMENTATION

• Many departments offer a separate section of their introductory course for freshmen. While the University has its own reasons for this structure, departments might want to assess the effects of this structure at the local level. For example, are students who take a freshman introductory course more likely to take further courses in the subject and eventually major in this department than students who take the introductory sophomore course? There are of course self-selection effects that complicate this comparison, but their effects could be estimated by asking students at the beginning of the course whether they intend to take further courses and major in this department. In some cases, it may also be possible to compare students who wanted to take the freshman course but were closed out to those students who were able to take the freshman course as another partial control on selection effects.

Romance Languages and Literatures

- Romance: "Proficiency oriented assessment"

Romance is involved in an analysis to learn what hinders or helps language study beyond the University requirements. They are using French now and will move on to Spanish in the future if such a move seems merited. They want to learn:

- 1) Correlation between number of years of high school study and placement.
- 2) Reasons why students continue at advanced levels.
- 3) What percentage of majors begin language at Notre Dame.
- 4) What percentage of majors have studied abroad.
- 5) Whether students in 201/241 have reached same level of competence by end of the semester.

College of Business Administration

• In the College of Business Administration, the emphasis on communication enhancement should involve complementary efforts between the Center for Business Communications and the College of Business Administration (CBA) faculty. In other words, the CBA faculty must make a concerted effort to include more communication experiences and opportunities in their respective classes while the Center for Business Communications continues to focus on the improvement of listening, speaking and writing skills through its activities. This coordinated approach seems more productive than one which mainly relies on the efforts of the Center for Business Communications to foster improved communication skills.

APPENDIX 2

Guidelines to Deans on Phases II and III

September 12, 1995

College of Arts and Letters
University of Notre Dame
Notre Dame, IN 46556

Dear ,

As you know, the University's Assessment Plan was submitted to the North Central Association of Colleges and Schools on August 1, 1995. A copy of the Plan is enclosed for your information. The Assessment Committee proposed a program that progresses in phases. We considered the work of the past year as Phase I and outlined three subsequent phases extending through the 1997-98 academic year.

The work of Phase I included analyzing the mission statement to formulate a list of goals for undergraduate education at Notre Dame, surveying departments, analyzing and reporting on the measures departments think might be taken to improve the effectiveness of teaching and learning, and setting out within broad parameters a framework for a University assessment program. This work constitutes Phase I of the Plan.

Phase II (Fall 1995) of the assessment plan combines departmental participation in a campuswide assessment of academic advising with more specialized projects developed at the departmental or divisional level. The first component has the advantage of getting every department involved in thinking about assessment. The second component, initiated at the level of college councils, involves selecting a project or projects to assess curriculum areas pertaining to undergraduate general education. This component allows for individual faculty to conduct assessment activities targeted specifically toward departmental interests and concerns.

Phase II then has two components:

- 1) a university-wide assessment of student academic advising;
- 2) specific assessment projects formulated by each college council.

The first project will be initiated by the Provost and a report on the findings will be presented to Academic Council in the fall.

DOCUMENTATION

The locus of assessment action for Part (2) is with the college councils who will be responsible for selecting at least one additional assessment project for each unit or division of the college. (We recommend that the College of Arts and Letters use Humanities, Social Sciences, and Fine and Performing Arts as the divisions. The Colleges of Business Administration, Engineering and Science can understand "division" as either individual departments or the College unit as a whole).

Projects may be identified in several ways. Some possibilities are suggested in the attachments to this letter. They may be related to the development and evaluation of new courses required by the Curriculum Report (Attachment A). This would require incorporating an assessment strategy into the redesigning of courses.

They may also be chosen from the examples identified through the survey of departments last fall and attached to the May 4 report from the Assessment Committee (Attachment B).

Finally, projects may be determined by formulating a fundamental question related to one of the four broad learning goals that is of primary importance to the college. If this option is chosen, the guide provided in Attachment C may help to initiate discussion.

The Assessment Committee recognizes that this "bottom up" approach might be more chaotic, but it believes that it is more likely to produce true involvement from interested faculty and thus has more potential to result in ongoing long-term assessment activities. It also allows individual faculty or small groups of faculty to conduct assessment activities targeted specifically toward departmental/divisional interests and concerns.

Rather than mandating that every department identify a project whether or not they think it is relevant to its mission, the Committee prefers to have a few high quality projects being conducted by individuals who are truly interested in them. Thus some departments might have several faculty engaged in multiple assessment projects while others might have none, at least initially.

The goal for Phase III (Spring 1996 through 1996-97 Academic Year) is for each division of each College to devise and implement at least one assessment project identified through the College Council in Phase II. Once the College Council has selected that goal that most interests them, that goal will function as a strategy for the development of a plan, study or pilot project. Although experts, including the Director of the Teaching/Learning Center, may be engaged as needed, faculty will have complete responsibility for designing and implementing these assessment projects.

The goal for Phases II and III is for each college council to select the project or projects that most interests them and to devise the instruments that will implement the assessment and appropriately involve the departments.

Thank you for your interest and participation. If you have questions or need additional information, please contact any member of the committee.

Sincerely,

Sr. Kathleen Cannon, O.P.
Associate Provost

Committee Members:
Kathleen Cannon, O.P. (chair)
A. Graham Lappin
Scott Maxwell
Mark McCready
Ken Milani
Dian Murray

Phase II, Part (2) – Fall 1995

Goal: For each college council to identify a fundamental goal about learning that is of importance to the college and that would form the basis of an eventual assessment project

Strategy: Each college council identify fundamental questions that make an essential difference in the educational process

- College council responsible for initiating selection process
- College council prioritize the projects and select the goal(s) that most interests them
- Consider formation of College Assessment Committee to oversee each college's actions

Different units might look at different levels or aspects of education; e.g., one might look at what is important to a department in terms of curriculum; another might be directed to how individual faculty members might improve the quality of their teaching.

Phase III – Spring 1996 through 1996-97 academic year

Goal: For each division/unit of each college to devise at least one pilot assessment project

Strategy: Use goal selected in Phase II to develop a plan, study or pilot project

DOCUMENTATION

Project design will involve:

- 1) selecting or developing appropriate assessment strategies; (Attachment D)
- 2) describing any data to be collected and the methods by which it will be analyzed;
- 3) indicating how results will be used (e.g., conclusions linked with curriculum, instruction, advising, etc.);
- 4) implementing the plan;
- 5) analyzing and reporting findings;
- 6) using the results to improve academic courses and programs.

The assessment committee has recommended that funds be made available for incentives that would provide additional resources for colleges which wish to go beyond what they can do with existing resources to understand and improve student learning. This could provide summer stipends for those who design the plan.

Although this phase is designed to extend through the 1996-97 academic year, it is quite possible that individual units will take initiatives on their own in advance of this date.

Attachment A

ALL COLLEGES

Date / Agent / Action

Fall '95 / Provost / Survey in all departments of student satisfaction with academic advising; report to academic units and to Undergraduate Studies Committee of Academic Council

Fall '95 / All departments / Review report and make changes to foster faculty-student interaction

Fall '95 / Provost and Director of Teaching and Learning Center / Report to Academic Council on efforts to assist director of students to become library literate and independent critical thinkers

Fall '95 / Deans / Report to Academic Council on plans to supplement large classes with tutorials, labs or other experiences

Fall '95 / College Councils / Assessment of requirements for honors at graduation; report to undergraduate committee of Academic Council

Fall '95 / College Councils / Discussion of possibility of courses which present a variety of cultural traditions and perspectives

Fall '95 / Deans / Report on above to Academic Council

SCIENCE

Fall '95 / Dean / Charge faculty to develop additional courses of a topical nature especially in the areas of chemistry and the biological sciences; report to Academic Council

Fall '95 / Dean / Assess lower-level math courses; redesign courses to better serve the needs of AL and BA students

Spring '96 / Math Department / Introduce redesigned math courses

Spring '99 / Math Department / Evaluate effectiveness of new lower-level math courses

ENGINEERING

Fall '95 / Dean / Charge faculty to develop electives in various areas of technology for non-engineering students; report to Academic Council

FRESHMAN YEAR OF STUDIES

Fall '95 / Dean (chair ad hoc committee) / Assess goals of Composition and Literature Course (109); report to Academic Council

ARTS AND LETTERS

1995-96 / Dean / Charge faculty to develop Arts and Letters University Seminars to replace Freshman Seminar

1996-97 / Dean / Introduce approximately 33 new Arts and Letters University Seminars

2000-2001 / Undergraduate Studies Committee / Assess University Seminars to see if expansion of seminar program is feasible

ACADEMIC COUNCIL

Fall '95 / Subcommittee of Undergraduate Committee / Charge college councils to do detailed study of requirements for honors at graduation with the goal of incorporating a significant research project or theses as a component

Spring '96 / Undergraduate Committee / Report on above to Academic Council

Annually / Undergraduate Studies Committee / Review goals of general education and the courses and structures which seek to realize these goals

DOCUMENTATION

Attachment B

EXAMPLES OF ASSESSMENT PROJECTS

College of Science

- Chemistry and biochemistry is concerned with the writing and communication skills of its students. There is a suspicion that these skills regress as the students go through the program. Restructuring the undergraduate seminar in chemistry could make it a teaching tool and an effective means of developing the skills of our students. The department would require students to demonstrate increased abilities to integrate chemical concepts and increased preparation (on-line data searching) and communication skills in successive years in the program. A significant writing component would also be introduced. The effect of these changes would be monitored in other courses in the department.

- An example from the College of Science deals with the problems of transferring knowledge and skills from one discipline to another. For example, how well do students integrate their knowledge of calculus into physics and chemistry courses? One particular area, which has been highlighted recently, addresses the difficulties biology majors experience in integrating the chemistry which underlies the molecular basis of modern biology. A new program, funded by the Howard Hughes Medical Foundation, was initiated for sophomores in 1993. Evaluation of the program is limited and is principally dependent on surveys of student opinions. As the College of Science looks to the development of a new Science Teaching Center on Campus, with attendant possibilities for closer integration of teaching in different disciplines, some better measure of the impact of these changes on student performance in subsequent courses within their major is highly desirable.

College of Engineering

- A statement heard often in the College of Engineering is that students entering college today have much poorer backgrounds in science and mathematics than they did 10 or 15 years ago. This is attributed to declines in quality of K-12 schooling and changes in the priorities of society. While it is not voiced as loudly, many faculty agree that engineers who graduate today in the middle to bottom of the class, are likewise not as good as 10 to 15 years ago. If this is true, and if it is true at most universities, it may cause serious consequences for both U.S. industrial competitiveness and public safety.

- In light of this statement (or any comparable issues), a possible assessment project for engineering departments would be to develop a proficiency test for seniors that

would examine general engineering skills for a specific discipline and possibly include some specific topical areas. It could be written or oral and it would be administered to all or part of the senior class. Once the test has been refined and some baseline data acquired, changes in the curriculum or specific courses would be made with the intent of remedying the problem described above or addressing some other pressing issue. The exit test would then be used in subsequent years to judge whether changes in the curriculum and courses have improved the quality of the students.

- In the questionnaire sent to departments last fall, a response by many departments in science and engineering regarding their efforts to aid in the moral and ethical development of students was that the University philosophy and theology requirements were assumed to take care of it. However, the philosophy and theology departments did not take ownership of students' ethical and moral development in their responses. Consequently, a project for individual departments could be to examine this issue to determine if there is a need for inclusion, in their own curricula, of material that could raise students' ethical conscience. For example, there are study modules developed for engineers that place students in roles as newly hired engineers where there is direct conflict between economic well-being and moral issues. These can be used in class discussions. Unfortunately, it is difficult to verify if students benefit from these exercises other than by asking them if they felt the discussions were worthwhile.

College of Arts and Letters – Social Sciences

- The psychology department recently instituted a senior honors thesis involving original empirical research as an option for a small group of outstanding majors each year. The department could assess the effects of this new program in several ways. For example, the percentage of these students choosing to pursue graduate study in psychology could be compared to the percentage of comparable students in the years immediately preceding the onset of this option. As these students reach the completion of their graduate programs, the department could survey them to assess the extent to which these students believe that the honors thesis helped prepare them for graduate school. In addition, the department could interview these honors students at the completion of their senior year to learn from them at that point in their education how they perceive the strengths and weaknesses of the honors option.

- Many departments offer a separate section of their introductory course for freshmen. While the University has its own reasons for this structure, departments might want to assess the effects of this structure at the local level. For example, are students who take a freshman in-

DOCUMENTATION

introductory course more likely to take further courses in the subject and eventually major in this department than students who take the introductory sophomore course? There are of course self-selection effects that complicate this comparison, but their effects could be estimated by asking students at the beginning of the course whether they intend to take further courses and major in this department. In some cases, it may also be possible to compare students who wanted to take the freshman course but were closed out to those students who were able to take the freshman course as another partial control on selection effects.

Romance Languages and Literatures

- Romance: "Proficiency oriented assessment"

Romance is involved in an analysis to learn what hinders or helps language study beyond the University requirements. They are using French now and will move on to Spanish in the future if such a move seems merited. They want to learn:

- 1) Correlation between number of years of high school study and placement.
- 2) Reasons why students continue at advanced levels.
- 3) What percentage of majors begin language at Notre Dame.
- 4) What percentage of majors have studied abroad.
- 5) Whether students in 201/241 have reached the same level of competence by end of semester.

University Seminars

We are about to make radical changes in student/faculty interactions with writing intensive seminars based on nothing other than anecdotal evidence that anything is wrong with the current system. More importantly, there is no method whereby we can assess what affect the changes we do make will have. If we say that we expect our students to be more intellectually curious and better communicators if they get to interact in small writing intensive seminars with faculty then we should have some means of determining how to measure this. What is needed is a baseline and conversation so faculty can ask the telling questions.

College of Business Administration

- In the College of Business Administration, the emphasis on communication enhancement should involve complementary efforts between the Center for Business Communications and the College of Business Administration (CBA) faculty. In other words, the CBA faculty must make a concerted effort to include more communication experiences and opportunities in their respective classes while the Center for Business Communications continues

to focus on the improvement of listening, speaking and writing skills through its activities. This coordinated approach seems more productive than one which mainly relies on the efforts of the Center for Business Communications to foster improved communication skills.

Attachment C

A basic premise for the approach to assessment adopted by the assessment committee is that faculty have the skills and interest in improving the educational experience of our students.

For assessment to be used effectively to improve student learning, it is crucial to define exactly what you seek to improve. Once the question or issue is carefully defined, then tests for measuring the outcome will be relatively straightforward.

Some questions that might initiate discussion:

- What key questions about student learning do you have?
- What are the learning goals for students in your department?
- Are your and your department's goals for students being met?
- What are the important questions/issues/problems of your educational mission?
- What would you like to know about what students in your department are learning?
- Is the quality of Notre Dame students improving or regressing, holding steady?

It may be helpful to conceptualize assessment from the perspective of the four broad learning goals

1. Pursue knowledge and evaluate its consequences
 - i. Can students think abstractly and logically to evaluate problems?
 - ii. Do they generate decisions and solutions and integrate new information to formulate principles and theories?
 - iii. Do they share the desire for intellectual creativity and the acquisition of knowledge?

2. Communicate clearly and effectively

Can students convey information clearly and succinctly in both written and oral presentations?

3. Demonstrate competency in at least one area of study

- i. Have students developed an understanding of the methodology and tools, sufficient knowledge and the ability to practice their chosen major subject?
 - ii. Do they possess a core of knowledge in a chosen field expected of a person of this education level?
- ### 4. Appreciate their social and moral responsibilities
- i. Do students reflect upon the spiritual, moral and ethical dimensions of life?
 - ii. Do they display the moral dimensions of their decisions through such attributes as openness, sensitivity, maturity, tolerance, flexibility?
 - iii. Do they demonstrate attributes and skills important in working with others and contribute as a group member?

Attachment D

Assessment Strategies – Some examples

Tests	Performance
Surveys	Videotapes
Questionnaires	Portfolios
Focus group	Threshold and Capstone Courses
Interviews	External Reviewers

Standardized tests are easy to administer but sometimes do not yield the information needed to answer the target questions. Surveys and questionnaires may provide limited information about students, faculty, staff, and their attitudes and perceptions, but an exit interview or focus group allows for greater understanding. Paper-and-pen assessment measures permit the institution to gather large amounts of information but may not provide the depth needed for making decisions about improvements. Some areas, such as music and art, cannot be measured easily by written procedures and may require performance criteria and ratings by professionals in the field. Personal growth of students over the long term cannot be determined easily through objective measures, but videotapes may demonstrate the skills acquired during the students' college careers. Transcript analysis may be necessary in order to understand the patterns of courses that contribute to success in various areas.

Faculty Senate Journal

September 6, 1995

The first meeting of the Faculty Senate for the academic year 1995–96 was called to order at 7 p.m. in room 202 of the Center for Continuing Education by the chair, Professor Richard McBrien. He asked the vice chair, Professor Sonja Jordan, to offer the prayer. The journal having been presented by co-secretary Peter Lombardo, the senate approved it subject to the condition that corrections or emendations be brought to the secretary's attention within one week; any substantive changes would be reviewed by the senate at its next meeting.

In his report the chair welcomed new and returning members; reminded the senate that it would operate, as in the past, under Robert's Rules of Order and the senate's By-laws; reviewed the activities of 1994–95, especially the resolutions the senate passed at its September 1994 meeting, the appeals process study which the Provost's Advisory Council is taking up this year, its review of the work of the University Committee on Women from 1993–94 which the Academic Council is now considering, two worthwhile meetings with the University officers at Oakdale House and discussions on athletics, the gay/lesbian issue and the method of appointing new vice presidents in the Office of the Provost. He voiced the hope that accountability would remain a constant in the coming year's work. Also part of the 1995–96 agenda would be further deliberation by the Administration Committee on the senate's self-study, especially its comments on the meeting time of the senate. The chair will have a formal role in the final stages of the interview process for the new provost. He felt it was important for the senate to take part in a study of staff salaries and responsibilities at Notre Dame, as well as to continue its review of the North Central Accreditation report. He welcomed ideas and suggestions from individual senators and the committees.

The chair's report is printed as Appendix A of this journal. Additionally the senate has received two communications that relate to its work in 1994–95 and these are also printed as appendices:

Appendix B — a memorandum from E. William Beauchamp, C.S.C., executive vice president, in regard to a senate resolution on women's softball.

Appendix C — a letter from Patricia O'Hara, vice president for student affairs, in regard to a senate resolution on gays and lesbians at Notre Dame and Saint Mary's College.

The senate then recessed for 30 minutes so that its committees could meet and begin to formulate their respective agenda for the year.

DOCUMENTATION

When the meeting resumed, the chair recognized the chairs of the standing committees for their respective reports.

COMMITTEE REPORTS

Academic Affairs — the chair, Professor Michael Detlefsen, said the committee will review the NCA report with an eye to identifying issues that would serve as agenda items for the year. It plans to keep a close watch on developments.

Administration — the chair, Professor Jean Porter, responded that the committee saw three issues making up its 1995–96 agenda: It plans to review the senate self-study document and report back to the senate by November; it believes a review of the issue on staff salaries and levels of responsibility an important work for it to perform (she mentioned a Gender Studies Program fact sheet which would provide valuable information for their study); and the group will re-visit the NCA report, especially in regard to hiring and recruitment practices in light of affirmative action issues generally.

Benefits — the chair, Professor Mario Borelli, said this committee will also look at the staff salary issue. In addition it will continue to monitor the Retiree 2000 insurance plan and ask the Human Resources Department — again — for a statement on it. It will look at the disparity in premiums Notre Dame pays for active and retired faculty health benefits, and it will investigate the long-term care insurance issue to see if there indeed was a missed opportunity to provide this more widely with no medical exam to pass. He would urge Human Resources to be open and forthcoming with information.

Student Affairs — the chair, Professor Patrick Sullivan, C.S.C., reported three items the committee will consider: a program for understanding and relieving sexual harassment (this in concert with the Office of Student Affairs and Freshman Year of Studies); the NCA report, to identify the priorities they should address; and the GLND/SMC issue, especially in light of a recent article by Peter Steinfeld in *Notre Dame Magazine*.

All the committee chairs urged senators and other faculty members to make further suggestions for topics to address.

Professor Wilson Miscamble, C.S.C., moved to adjourn, and the senate did so at 8:30 p.m.

Present: Bayard, Biddick, Borelli, Bottei, Bradley, Broderick, Bunker, Coll, Conlon, Cornelis * (sat in for McCarthy), Detlefsen, Doordan, Eagan, Garg, Godmilow, Hamburg, Hemler, Huang, Jordan, Lamanna, Lombardo, Mason, Matthews, Mayer, McBrien, Miscamble, O'Brien,

Porter, Preacher, Quinn, Rai, Rathburn, Ruccio, Sheerin, Simon, Stevenson, Sullivan, Wei

Absent: Esch, Hyde, Miller, Neal, Pillay, Zachman

Excused: Buttigieg, Collins, DeLanghe, Gundlach, Gutting, Neyrey, Sayers, Schmid, Weinfield, McCarthy

* Student Government representative

Appendix A

Chair's Report
September 6, 1995

First, a word of welcome to every member of the Faculty Senate, veteran and newcomer alike. Of the 53 faculty members who constitute the Senate, 17 are new to the Senate this year, although at least two have served as senators in the past. The new members are: Bruce Bunker (Physics, the *ex officio* representative for the College of Science), Joseph Buttigieg (English), Edward Conlon (chair of the Department of Management and *ex officio* representative for the College of Business Administration), Kathleen DeLanghe (Physics), Jill Godmilow (Communication and Theater), Gary Gutting (chair of the Department of Philosophy and the *ex officio* representative for the College of Arts and Letters), Michael Hemler ((Finance), Richard Lamanna (Sociology), Grant Mathews (Physics), Roger Mayer (Management), Albert Miller (Chemical Engineering), Clive Neal (Civil Engineering and Geological Sciences), Jerome Neyrey (Theology), James O'Brien (professor and chair of Military Science), Anand Pillay (Mathematics), Philip Quinn (Philosophy), Steven Schmid (Aerospace and Mechanical Engineering), and Daniel Sheerin (chair of the Department of Classical and Oriental Languages and Literatures). One additional member is still to be elected from the College of Science to fill an unexpired term.

My formal remarks this evening are divided into three parts: (1) matters of procedure; (2) a brief review and report on the business of last year's Senate; and (3) an overview of this year's agenda.

I. Procedures:

I intend to continue last year's practice of calling our meetings to order promptly at 7 o'clock, and of moving them along, in keeping with the rules of parliamentary procedures, in order to accomplish as much as possible within our limited amount of time and so that each meeting will last only as long as necessary, and no longer.

I am convinced that it is our attentiveness to proper procedures, specifically to Robert's Rules of Order, that helps ensure the effectiveness of our work together. Those of

DOCUMENTATION

you who serve, or have served, on other university-wide bodies may notice the difference. In that connection, I hereby reappoint William Eagan, of the emeriti faculty, to serve as Senate Parliamentarian for the new academic year, and Jean Porter, of the College of Arts and Letters faculty, as Deputy Parliamentarian.

What follows in the next several paragraphs is by way of a reminder to the returning members of the Senate and provides a few points of information for new members.

One of the fundamental rules of procedure, according to Robert's Rules, is that "discussion of any subject is permitted only with reference to pending motion." Robert's says: "Unless the assembly has specifically authorized that a particular subject be discussed while no motion is pending, however, such a discussion can be entered into only at the sufferance of the chair or until a point of order is made: and in the latter case, the chair must immediately require that a motion be offered or the discussion cease. The general rule against discussion without a motion is one of parliamentary procedure's powerful tools for keeping business 'on track,' and an observance of its spirit can be an important factor in making even a very small meeting rapidly moving and interesting" (pp. 33-34).

Another rule that has proved especially important for insuring equal access to the floor in a body of this size is the rule that no one may be recognized a second time during a debate on a question "so long as any member who has not spoken on that question desires the floor" (p. 42). And, in any case, no one is to speak more than twice on the same question on the same day.

Moreover, when a debate is in progress, it must be "confined to the merits of the question. Speakers must address their remarks to the chair, maintain a courteous tone, and — especially in reference to any divergence of opinion — should avoid injecting a personal note into debate. To this end, they must never attack or make any allusion to the motives of members" (p. 42). The chair will have to rule such members out of order, and they will be required to forfeit the floor.

The rules of procedure also apply to the chair. Robert's reminds us that "the presiding officer should not enter into discussion of pending questions (unless, in rare instances, he [or she] leaves the chair until the pending business has been disposed of) ... Although the presiding officer should give close attention to each speaker's remarks during debate, he [or she] cannot interrupt the person who has the floor so long as that person does not violate any of the assembly's rules and no disorder arises. The presiding officer must never interrupt a speaker simply because he [or she] knows more about the matter than the speaker does" (pp. 42-43).

Finally, "The presiding officer cannot close debate so long as any member who has not exhausted his [or her] right to debate desires the floor, except by order of the assembly, which requires a two-thirds vote" (p. 43). You will recall that individual members exhaust the right to debate when they have spoken twice on a given question on the same day.

Even if you do not have a copy of Robert's Rules of Order or do not have the time or inclination to study Robert's Rules, you should at least make an effort to familiarize or to re-familiarize yourselves with the Bylaws of the Faculty Senate. I would call your attention, in particular, to Article XVI (b) which stipulates: "In order that each constituency be effectively represented in the Senate, members who are unable to attend at least one meeting per semester will forfeit their membership. Notice of forfeiture will be sent to the constituency that the member represents, so that a new representative can be delegated."

But that is clearly a minimal approach to the question. We hope to achieve this year an even greater degree of communication and accountability between each member of the Senate and the particular constituency which she or he represents. In furtherance of that end, we shall try to post Senate and standing committee agendas in advance on the university-wide computer network, and promptly to make available the executive summary for each Senate meeting and the approved Journal. The Journal will still be published in *Notre Dame Report*, but it can also be made available a few weeks earlier via the university computer network.

II. Review and Report on Last Year's Senate Business:

1. Status of the First Three Resolutions: At the opening meeting of the Faculty Senate last September, three resolutions were debated and passed. The first had to do with the appointment of vice presidents serving in the Provost's office as associate provosts; the second had to do with intercollegiate athletics; and the third had to do with the creation of the Notre Dame Forum on Academic Life under Senate sponsorship.

As all of you should be aware, whether you were members of the Senate last year or not, the first resolution was eventually adopted by the Academic Council and approved by the President; namely, that henceforth there will be "formal faculty input" into the appointment and review of the two vice presidents in the Provost's office. The nominations of such officers will hereafter be presented for consideration first to the Provost's Advisory Committee (PAC) before being forwarded by the President to the Board of Trustees. Reviews of the two vice presidents and associate provosts will be folded into the regular review of the Provost.

DOCUMENTATION

The third resolution, concerning the Notre Dame Forum on Academic Life, was implemented through four sessions—two in each semester—during the past academic year. There were presentations and discussions concerning the historical development of Notre Dame as a university, the place of science at Notre Dame, the relationship between teaching and research at Notre Dame, and the role of Theology at Notre Dame. Last May, the newly installed Senate voted unanimously to continue the Forum for a second year under Senate sponsorship. I have asked the following members to serve as an ad hoc advisory committee for the new academic year: Phil Quinn (Arts and Letters), Anand Pillay (Science), Albert Miller (Engineering), and Sonja Jordan (Library). I will serve as chair of the committee and principal administrator of the Forum. Your own ideas and suggestions for topics and speakers are welcome. We also hope this year to forge a closer relationship with the ongoing Conversation on the Catholic Character.

The second of the three resolutions, on intercollegiate athletics, did not receive final action by the Academic Council until May 15 at a special meeting of the Council. Although the Academic Council voted down the Senate's proposal that an elected faculty member serve as chair of the Faculty Board on Athletics, the Council did approve, by a vote of 14-9, the Senate's proposal that two faculty members, elected at large by the entire faculty, be added to the board so that elected faculty would constitute the majority of the Faculty Board on Athletics. The Academic Council also agreed that the longest part of the Senate's resolution on intercollegiate athletics, section #2, be incorporated into the policy section of the Faculty Handbook. By the end of the fall semester the Faculty Board on Athletics will propose new language for the Faculty Handbook in keeping with the Senate's resolution.

2. Appeals Process: The Senate's proposal on the appeals process for faculty reappointments and promotions, passed at last May's Senate meeting, was the first order of business at today's meeting of the Provost's Advisory Committee. Mic Detlefsen, chair of the Senate's standing committee on Academic Affairs, was invited to present the proposal to PAC, and he did so with exceptional competence and finesse. PAC devoted two hours to the issue and the Provost pledged that the topic would remain on PAC's agenda for the new year. As a new member of the Provost's Advisory Committee, I will have an opportunity to monitor the progress of issues of this sort in which the Faculty Senate and the faculty generally have an abiding interest.

3. University Committee on Women: Another Faculty Senate proposal that became temporarily lost in the proverbial black hole all last year has been found, thanks to the prodding of members like Laura Bayard, our new Senate treasurer. The proposal concerns the restructuring of

the University Committee on Women (also known as the Faculty/Student Committee on Women). The proposal will be discussed at tomorrow afternoon's meeting of the Academic Council's Executive Committee, of which I am also a member. The earliest the proposal can come before the full Academic Council, however, is October 3 since the first full meeting of the Council on September 13 has the form of an annual quasi-retreat.

4. Executive Committee Meeting with Officers: The newly elected Executive Committee of the Faculty Senate met with six officers of the University on May 22 to discuss matters of mutual concern. It was the second such meeting during the academic year, thanks to the initiative of the President in reconstituting a practice that had lapsed several years earlier. The May meeting was both useful and constructive, to employ the verbal currency of the diplomatic world.

5. Women's Softball: Another resolution passed at last May's meeting concerned a conflict between the participation of our women's softball team in the Midwestern Collegiate Conference tournament and the final examination schedule. Father Beauchamp's response to the resolution has been distributed with the agenda for this evening's meeting. On behalf of the Senate, I thank him for his prompt and detailed reply.

6. GLND/SMC: The Senate's resolution, passed last March, in support of the recognition of GLND/SMC has been acknowledged and rejected by Vice President Patty O'Hara and by the officers of the University. Vice President O'Hara reminds us that an ad hoc committee made up of various faculty, students, and staff has the general issue under formal consideration. In the meantime, the American Sociological Association voted on August 22 to "strongly deplore" the action of the University and to encourage the Administration formally to recognize GLND/SMC as an official campus organization. A copy of the A.S.A. resolution has been distributed at the beginning of this meeting and, if it is acceptable to the body, will be included in the Journal of this evening's meeting.

III. Agenda for the New Year:

What follows here is by no means finally fixed. As is the case with everything else affecting the life and work of the Faculty Senate, the ideas and suggestions of each member are both welcome and important. Between our monthly meetings, members should feel free to communicate their views directly to the Chair or any member of the Executive Committee.

1. Accountability: As our integrating theme for the year, we intend to continue to focus on the matter of accountability, on the part of the Administration and of the faculty alike. The Faculty Senate represents the faculty. In-

DOCUMENTATION

deed, it is the only body at Notre Dame that is totally elected and governed by the faculty. Contrary impressions and perceptions notwithstanding, the Faculty Senate is interested in more than faculty grievances and benefits. Our primary concern remains the academic integrity and future of the University. But we are also concerned that, in everything the University does and in the face it shows to its wider public, Notre Dame remain a Catholic university in the fullest sense of the word: inclusive in its outreach, comprehensive in its interests, universal in its values, truthful in its words and actions, and committed without hesitation or compromise to the cardinal virtue of justice, without which a claim to Catholicity would be empty and even fraudulent.

2. Senate Self-Study: The excellent Faculty Senate Self-Study Report that was received by the full Senate in May has been referred to the standing committee on the Administration of the University for further consideration of its several practical recommendations. I should expect the Administration Committee to have its own recommendations to place before the full Senate sometime during the fall semester. I would like to take this opportunity once again to thank our former colleague and my predecessor in the chair, Richard Sheehan, and his ad hoc committee members for guiding the self-study process to its successful completion last May.

3. Provost Search: The President has informed us in his letter to the Notre Dame community dated August 31 that four finalists and two semi-finalists have been identified for the office of Provost. Once the evaluation of the semi-finalists has been completed, the final stage of the search process will begin, involving interviews of candidates with the elected faculty members on the Academic Council, student leaders, and myself as Chair of the Faculty Senate. The President hopes to have the process completed in time for the October meeting of the Board of Trustees. Honoring whatever constraints of confidentiality are imposed, I shall do my best to keep the Senate informed of developments in which I am a direct participant, and I would invite members of the Senate to pass along to me whatever pertinent information they might have regarding the search process.

4. Staff Salaries and Levels of Responsibility: One of the most important tasks of the Faculty Senate this year will be to address the issue of staff salaries and levels of staff responsibility. The matter was raised last year and there was some agreement that we should move forward on it during the new academic year. The Faculty Senate will have an opportunity to demonstrate its concern for non-faculty constituencies on campus, particularly for those who at present have no public voice on behalf of their legitimate interests. Nothing more effectively marks a university as Catholic than the application of the prin-

ciples of Catholic social teachings to itself and its relations with its own employees.

5. Ongoing Concern for the North Central Association Report: The various standing committees of the Faculty Senate will continue to review the findings of the 1994 North Central Association Accreditation Report with a view to their application.

6. Monitoring of Other Business: The Chair and Executive Committee of the Senate will, of course, continue to monitor the progress of resolutions already passed, such as the proposal on appeals, and that of resolutions passed in the coming year. An individual member of the Senate, with a particular interest in a given issue, should never hesitate to inquire of its status or to press for action on it.

It should be evident that we have more than enough to do together this year. My pledge to you is that whatever we do, we shall do so in the most prompt, efficient, open, and fair-minded manner possible. However, we shall need one another's constant cooperation if that pledge is to be redeemed and if we are to look back upon this year as one marked by the Faculty Senate's constructive and effective participation in the life and governance of Notre Dame.

Appendix B

MEMO TO: Rev. Richard P. McBrien
Chair of the Faculty Senate
FROM: Rev. E. William Beauchamp, C.S.C.
SUBJECT: Faculty Senate Resolution (Women's Softball)
DATE: May 24, 1995

On May 2, 1995, the Faculty Senate passed a resolution objecting to actions taken by the Faculty Board in Control of Athletics in reference to the Women's Softball Team's participation in the Midwestern Collegiate Conference (MCC) Tournament in that this tournament was scheduled during the University's final examination period. In your memorandum to the Faculty Board, you invited a response explaining the actions taken on this issue by that body. On behalf of the Faculty Board in Control of Athletics, I submit the following. I hope that you will find this information helpful.

Last fall the Faculty Board in Control of Athletics approved the women's softball team schedule for the 1995 spring season. The dates for the MCC Tournament had not been identified at that time, and were thus not included as part of that schedule. Late in the fall, the athletic department became aware that the MCC softball tournament was scheduled so as to conflict with Notre Dame's final examinations. The MCC was informed of

DOCUMENTATION

the problem and the University was given assurance that the matter would be resolved as similar issues had been in the past. Around the end of January, the University was informed that the MCC softball tournament schedule would not be changed. Since Notre Dame was leaving the MCC at the end of the spring semester, the University's ability to negotiate and correct this difficulty was nil. The problem was then presented to the Faculty Board in Control of Athletics at its February 1995 meeting.

At the February meeting, the Faculty Board discussed the problem and possible alternatives. After much discussion, it was decided that the Board would approve the participation of Notre Dame's softball team in the MCC tournament, assuming an acceptable way could be worked out to accommodate the taking of the final examinations by the students who were affected. The reasons for this decision were numerous. First of all, this tournament was the only access for the women's softball team to the NCAA tournament. (You may recall that the women did in fact win the MCC tournament and were invited to participate in the NCAA Championship Tournament in Ann Arbor.) Secondly, there is a gender equity issue involved here. There has never been a men's team at Notre Dame denied the opportunity to participate in a conference championship and earn a spot in the NCAA Tournament. The University has expanded its varsity sports offerings to meet the requirements of justice in providing equal opportunities for our women athletes, as well as meeting the requirements of the law under Title IX. It did not seem appropriate nor fair to deny this team the opportunity to win the conference championship and access to the NCAA Tournament since the opportunity to participate for the national championship is certainly a goal of all of our intercollegiate teams. Finally, the Faculty Board recognized that it would be up to the deans and the faculty to approve any final exam schedule change for individual students. Thus, whether the team, or an individual on the team, could participate in the MCC Tournament was not ultimately up to the Faculty Board of Athletics.

In light of the above, immediately after the February meeting of the Faculty Board, Professor Kate Halischak met with deans of the colleges and/or their representatives to determine how best to address this problem. The deans indicated that they should be responsible for implementing whatever action would be required and suggested a number of alternatives that in their opinion would be workable. Professor Halischak and the deans continued to meet over a period of weeks and the letter that was sent to the faculty members who had softball team members in their class was the result of that work.

I do want to emphasize that, in accord with the *Statement on Intercollegiate Athletics*, "every effort [was] made to minimize conflicts with the class schedules and academic

assignments of the student-athletes" and attention was also paid "to the rhythm of the academic year and the particular importance of final examinations." Furthermore, from the very beginning when it was clear the scheduling conflict was final, the deans of the respective colleges were involved in the process of working out viable solutions to the difficulty. There was never any suggestion that the Faculty Board had authority to re-arrange the final exam schedule of any student-athlete.

I do want to assure you that the Faculty Board in Control of Athletics takes its responsibility to the academic program of the University very seriously. After the Faculty Senate Resolution was passed, the Board again discussed its decision on this matter, and still believes very strongly that it was the right one. In order to provide varsity sports opportunities for both men and women, Notre Dame has expanded the number of its varsity sports in recent years to a total of 24. As the percentage of women increases on the campus, it is anticipated that additional varsity sport(s) for women will be added. If we are to have any varsity sports on the campus, the law and equity demand we do no less. While every effort is always made to take into consideration the rhythm of the academic year, and we have been very successful in avoiding final exam conflicts in the past, it was clear that such a conflict was unavoidable this year. Furthermore, as much as we will try to prevent such difficulties in the future, I cannot guarantee that this conflict will not happen again. If our athletic program is to be a reflection of what is required under the law, and of our commitment to provide varsity sports opportunities in a fair and equitable manner for all of our students, this problem may arise again in the future. If so, it would seem unfair to deny the student-athlete who have worked so hard to succeed in the classroom and on the playing field the opportunity to play for their conference and national championships because of timing of championships over which we have no control if a reasonable solution to the conflict can be found. Of course, the last words of the immediately preceding sentence are essential in this matter.

As a final note, over the last few years we have contacted a number of prestigious institutions and conferences to determine how they handle such conflicts, as well as other scheduling issues. Different universities handle the problem in different ways. (For example, Stanford sends the final exams with the teams and has them take the exams on the road. Hardly an educationally stimulating environment.) The solution for administering the final exams to the softball team at Notre Dame seemed by far the most academically sensitive and sound manner of any university we contacted. Furthermore, Notre Dame has the most stringent policy for limited missed classes for student-athletes of any Division I institution of which we are aware.

I hope that you find the above information helpful. If I can provide further material, please do not hesitate to contact me.

cc: Academic Council
Faculty Board in Control of Athletics

Appendix C

May 3, 1995
Rev. Richard P. McBrien
Chair, The Faculty Senate
Box 489
UNIVERSITY OF NOTRE DAME
Notre Dame, IN 46556

Dear Dick:

At its most recent meeting, the Officers' Group discussed the Faculty Senate resolution that calls upon the Officers to grant immediate recognition to GLND/SMC.

The Officers had access to (i) GLND/SMC's 1992 application materials; (ii) my open letter of March 6th regarding the recognition issue; and (iii) the Faculty Senate Journal for the March 7th meeting, summarizing my visit to the Senate to discuss this matter.

The Officers note that under the University's published procedures final decisions regarding the recognition of student organizations are left to the Vice President for Student Affairs. The Officers support my decision with respect to GLND/SMC and the basis on which I made the decision. Thus, with due consideration for the differing opinion of the Senate on the merits of this issue, they believe that my decision should stand.

The Officers feel that creation of the ad hoc advisory committee to explore the broader question of building a more supportive environment for our gay and lesbian students through mechanisms other than recognition of a student organization is a legitimate effort to mediate the different views of various campus constituencies. The Officers share my hope that within the parameters of its mandate, the committee will be able to recommend channels, other than a student organization, that will help us better address the needs of our gay and lesbian students.

Dick, although we differ on the merits of this issue, I found my conversation with the Senate to be helpful in what I know will be an ongoing topic of concern for this office. All best wishes.

Sincerely,

Professor Patricia A. O'Hara
Vice President for Student Affairs

University Committee on Libraries May 23, 1995

The meeting was called to order at 3 p.m. in the office of the director of libraries by the chairman, Thomas Fehlner. Also in attendance were Maureen Gleason, John Halloran, James Kohn, Robert Miller, Robert Scheidt, Steven Schmid, Marsha Stevenson and secretary Melodie Eiteljorge.

The minutes of the meeting of April 18 were approved as written.

Robert Miller welcomed Steven Schmid, who will be the new representative for the College of Engineering. Leo Despres will represent the College of Arts and Letters, but he was unable to attend this meeting.

Miller reported that the proposed changes in the Academic Articles regarding the structure of this committee went to the Executive Committee of the Academic Council, but action was deferred. For the present time the composition of the committee will remain the same.

Miller also reported that the evaluation of P.S.S. Tapestry is over and that the libraries will stay with NOTIS for the present time.

A library group designated to study approval plans met and, based on Blackwell North America's recent acquisition of Ballen, they decided that they will not carry forward the committee's work at this time. They determined that the libraries should stay with BNA for at least a year, at which point we can decide whether or not to look at other approval plans.

Over the summer public terminals will be replaced with 486 machines. A number of staff machines will also be upgraded, and all faculty stations will be upgraded to 486 machines.

Miller also announced that the libraries were successful in receiving approval for two Unit Specific Requests (USRs) from the Office of University Computing, one for mounting CDs for scientific journals over the network, and one for providing a local server to mount the Dante project and some related expanded programs.

Thomas Fehlner asked about the status of the letter that was to be sent to faculty. Miller replied that he had decided to postpone the mailing until fall since it had been so close to exam period.

DOCUMENTATION

Miller reported that he had attended a meeting of the Association of Research Libraries in Boston. It seems that the era of print for current journals is probably on its way out, although the change to electronic format will take a long time and will vary by discipline. Many scientific journals are already being archived in electronic form, and some are being produced that way. This will have major implications for storage needs.

Maureen Gleason next discussed approaches for the enhanced budget. When she met with the group earlier, she sensed some disappointment that there was not an exciting new approach to the budget. However, the overall increase in the acquisitions budget this year from the University appropriation (not endowment) is 13 to 14 percent over last year. That is better, but not sufficient to meet the pent-up demand that exists for print as well as electronic material. There is more optimism for the future. Endowment is growing substantially, though most of it is restricted. It is hoped that in the future more funds will allow greater flexibility for new initiatives while still meeting some of the demands.

This year the goal was to meet the most pressing needs, while moving in the direction we want to go. The first step is to improve current coverage. One way is to enhance approval plans. Blackwell North America covers a much broader area of publications than did Ballen. They also have a much more sophisticated profile system, making it easier for selectors to decide what is most important in various areas. Still, it will cost more money. There has been some pressure to raise the price limit. There continues to be a demand to add foreign and specialty approval plans.

Another question is how to increase allocations to departments and units. After covering minimal estimates of inflation and necessary additions to the budget, approximately 7 percent of current total allocations would be available for redistribution. We probably will deviate a little and not allocate across the board. These allocations cover all physical formats. For the first time this year, we have set up a contingency fund. Serials costs continue to be a problem. Among other things, there is a desire to provide at least token allocations to interdisciplinary programs that have not had allocations before.

Although the Colloquy assumed that most of the money for retrospective and special buying would have to come from endowment, we did feel it was important to get started in a modest way in those areas. We have tried to take some monies from endowment that, in the past, have been used to subsidize current purchasing and to earmark them for retrospective and special buying.

New money from the enhancement program must also finance electronic resources, including those initiated through the Browning fund, and the new Business Information Center databases. A system to make databases available online is ideal. For this, however, we must pay a rate that enables us to have more than one simultaneous user. We have not canceled print for CD-ROM to date but may be able to do so in the future and recover some funds in that way. The reason we have hesitated is that InfoShare, our present system for online access to indexes, has been unstable.

Miller noted that "resource delivery" will be a new budget category for next year. This will cover costs to provide Notre Dame users access to materials that are not held locally. This will include passwords, interlibrary loan, etc.

Fehlner asked how the libraries view the next five years. Gleason replied that the strategy is to look at the delivery of information, basically serials. Trends are in their infancy. We will examine titles that are available in different formats and determine what the costs are. One prediction is that by the year 2010–2015 perhaps 50 percent of current literature in sciences and technology will be available in electronic form. The question is, who will pay for it — individuals, the University? It is open-ended at this point.

Miller noted that the libraries are considering making Encyclopedia Britannica available on the backbone. The cost is a significant factor.

John Halloran asked about the vision for endowment. Miller replied that his vision is to get current publications onto the University budget and to use endowment for retrospective, specialized and expensive items.

Halloran asked if, with Blackwell North America, departments will need to redefine existing profiles. Gleason replied that they will to a certain extent. BNA offers easier ways to search and assist people in developing a more targeted profile, providing a better sense of fiscal implications.

There being no further business, the meeting adjourned at 4 p.m. A meeting will be scheduled in August unless some special agenda item comes up in the meantime.

Respectfully submitted,

Melodie G. Eiteljorge
Secretary

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Current Publications and Other Scholarly Works

Current publications should be mailed to the Office of Research of the Graduate School, Room 312, Main Building.

COLLEGE OF ARTS AND LETTERS

Anthropology

Cunningham, M. Hilary

M. H. Cunningham. 1995. God and Caesar at the Rio Grande. *Sanctuary and the politics of religion*. University of Minnesota Press. 264 pp.

Murphy, Martin F.

M. F. Murphy. 1995. The debate on Cuba's future: A contribution from anthropology. *American Anthropological Association, Anthropology Newsletter* 36 (5): 30.

Sheridan, Susan G.

D. P. Van Gerven, S. G. Sheridan and W. Y. Adams. 1995. Health and nutrition of a medieval Nubian population: The impact of political and economic change. *American Journal of Physical Anthropology* 97 (3): 468-480.

English

Brogan, Jacqueline V.

J. V. Brogan. 1995. A panel on Robinson Jeffers and the female archetype. In *Robinson Jeffers: Dimensions of a poet*, ed. R. Brophy, 110-136. New York: Fordham University Press.

Gernes, Sonia G.

S. G. Gernes. 1995. "The bank" and "Traps." Poems. *Hopewell Review* 7:97-98.

O'Rourke, William A.

W. A. O'Rourke. 1995. A regular American guy. Review of *Independence day*, by R. Ford. *Chicago Tribune*, 25 June, sec.14, p. 3.

W. A. O'Rourke. 1995. "Secret life" not secret anymore. Review of *Secret life: An autobiography*, by M. Ryan. *South Bend Tribune*, 27 August, sec. E, p. 6.

Robinson, James E.

J. E. Robinson. 1995. Rhetoric and representation: Shakespeare and the theatre-world metaphor. *Canadian Journal of Rhetorical Studies* 5 (September): 77-93.

Government and International Studies

Dallmayr, Fred R.

F. R. Dallmayr. 1995. Heidegger and Freud. In *From phenomenology to thought, errancy, and desire: Topical essays on the work of William J. Richardson*, ed. B. E. Babich, 549-567. Leiden, Netherlands: Kluwer.

F. R. Dallmayr. 1995. Political thought beyond metaphysics. *Review of Politics* 57:138-143.

F. R. Dallmayr. 1995. Review of *The word speaks to the Faustian man*, by S. R. Gupta. *Philosophy East & West* 45:286-292.

F. R. Dallmayr. 1994. Culture and global development. *Journal of Contemporary Thought* 4:99-111.

Program of Liberal Studies

Weinfield, Henry M.

H. M. Weinfield. 1995. William Bronk. Selected poems. Selected and with a Preface by Henry Weinfield. New York: New Directions.

Sociology

Weigert, Andrew J.

A. J. Weigert. 1995. José Ortega y Gasset on understanding human life as ultimate reality and meaning. *Ultimate Reality and Meaning* 18 (March): 54-65.

Theology

Blenkinsopp, Joseph

J. Blenkinsopp. 1995. Sage, priest, prophet. *Religions and intellectual leadership in ancient Israel*. Louisville, Ky.: Westminster-John Knox Press. xv + 195 pp.

J. Blenkinsopp. 1995. Wisdom and law in the old testament. *The ordering of life in Israel and early Judaism*. 2d ed. Oxford: Oxford University Press. v + 197 pp.

Coll, Regina A., C.S.J.

R. A. Coll, C.S.J. 1995. Women in the church. (35 short entries) In *The Harper/Collins Encyclopedia of Catholicism*, eds. R. McBrien and R. A. Coll, C.S.J., 1330-1336. San Francisco, Calif.: Harper/Collins.

Egan, Keith J.

K. J. Egan. 1995. "Spiritual guidance: A coat of many colors," "The roots of Carmelite spiritual guidance I," and "The roots of Carmelite spiritual guidance II," lectures. 1995 Seminar on Carmelite Spirituality: "Spiritual Guidance: The Carmelite Tradition," given at Saint Mary's College, Notre Dame, Ind. Washington, D.C.: Institute of Carmelite Studies. Cassette album.

Ford, Josephine Massyngbaerde

J. M. Ford. 1995. Jesus as sovereign in the passion according to John. *Biblical Theology Bulletin* 25 (3): 110-117.

McBrien, Richard P., Rev.

R. P. McBrien. Copyright 1996. Teaching Catholicism today: The challenge of fundamentalism. In *Keeping pace: 25 years of theology, education and ministry from pace*, ed. P. O'Hare, 52-57. Dubuque, Iowa: Brown-Roa.

R. P. McBrien. 1995. Review of *Christianity: Its essence and history*, by H. Kung. *Tablet* 249 (8094): 1202-1204.

THE GRADUATE SCHOOL OFFICE OF RESEARCH

- R. P. McBrien. 1995. Review of *The assurance of things hoped for: A theology of Christian faith*, by A. Dulles, S.J. *Worship* 69 (5): 462-465.
- R. P. McBrien, ed. 1995. *The Harper/Collins encyclopedia of Catholicism*. San Francisco, Calif.: Harper/Collins. xxxviii + 1349 pp.
- R. P. McBrien. 1995. 240 articles including major articles on: Catholic Church, Catholicism, Church, Annotated List of Popes and Vatican Council II. In *The Harper/Collins encyclopedia of Catholicism*, ed. R. P. McBrien. San Francisco, Calif.: Harper/Collins.
- R. P. McBrien. 1995. What's ahead for the Catholic Church? (2 shows) on *Firing Line*. New York: Public Broadcasting System. Television. Air dates: weeks of September 17 and 24.
- J. Martin and R. P. McBrien, contributor. 1995. How can I find God? *America* 173 (9): 19.
- Melloh, John Allyn, S.M.
- J. A. Melloh, S.M. 1995. Speaking of renewal: An interview with John Allyn Melloh, S.M. *AIM Liturgy Resources* 23 (4): 6-10.
- Scharper, Stephen B.
- S. B. Scharper. 1994. Review of *Gaia and God*, by R. R. Ruether. *ARC: Journal of the Faculty of Religious Studies*, McGill University 22:139-140.
- Ulrich, Eugene C.
- E. C. Ulrich. 1995. "Dead sea scrolls," "Septuagint," and five other articles. In *The Harper/Collins encyclopedia of Catholicism*, ed. R. P. McBrien, 82, 398, 477-478, 839, 1076, 1183-1184 and 1241. San Francisco, Calif.: Harper/Collins.
- E. C. Ulrich. 1995. An index of the passages in the Biblical manuscripts from the Judean desert (Part 2: Isaiah-Chronicles). *Dead Sea Discoveries* 2 (1): 86-107.
- E. C. Ulrich and W. G. Thompson. 1995. The tradition in theological reflection: Scripture and the minister. In *Method in ministry: Theological reflection and Christian ministry*, eds. J. D. Whitehead and E. E. Whitehead, 23-42. Revised ed. Kansas City, Miss.: Sheed and Ward.
- VanderKam, James C.
- J. VanderKam. 1995. Das chronologische Konzept des Jubiläenbuches. *Zeitschrift für die alttestamentliche Wissenschaft* 107:80-100.
- J. VanderKam. 1995. Simon the just: Simon I or Simon II? In *Pomegranates and golden bells*, eds. D. Wright, D. Freedman and A. Hurwitz, 303-318. Winona Lake: Eisenbrauns.
- J. VanderKam. 1994. Genesis I in Jubilees 2. *Dead Sea Discoveries* 1:300-321.
- J. VanderKam. 1994. The granddaughters and grandsons of Noah. *Revue de Qumran* 16:457-461.
- J. VanderKam. 1994. The theology of the temple scroll. *Jewish Quarterly Review* 85:129-135.

White, James F., Rev

- J. F. White. 1995. August 16, Charles Grandison Finney (1875). In *For all the saints*, 173. Akron, Ohio: Order of St. Luke Publications.
- J. F. White. 1995. Gottesdienst im freikirchlichen und charismatischen Kontext. In *Hanbuch der Liturgik*, eds. H-C. Schmidt-Lauber and K-H. Bieritz, 186-194. Leipzig: Evangelische Verlagsanstalt and Gottingen: Vandenhoeck & Ruprecht.
- J. F. White. 1995. "Methodist churches" and "Methodist-Roman Catholic dialogue." (2 entries) In *The Harper/Collins encyclopedia of Catholicism*, ed. R. P. McBrien, 858-859. San Francisco, Calif.: Harper/Collins.

COLLEGE OF SCIENCE

Chemistry and Biochemistry

- Castellino, Francis J.
- W. T. Christiansen, L. R. Jalbert, R. M. Robertson, A. Jhingan, M. Prorok and F. J. Castellino. 1995. Hydrophobic amino acid residues of human anticoagulation protein C that contribute to its functional binding to phospholipid vesicles. *Biochemistry* 34:10376-10382.
- Scheidt, W. Robert
- B. Cheng, F. Cukiernik, P. H. Fries, J-C. Marchon and W. R. Scheidt. 1995. A novel dimanganese(III) complex with a single hydroxo bridge. Syntheses, structures, and magnetic susceptibilities of (μ -hydroxo)bis((octaethylporphinato)manganese(III)) perchlorate and a monomeric precursor, aquo(octaethylporphinato)manganese(III) perchlorate. *Inorganic Chemistry* 34:4627-4639.

Mathematics

- Dwyer, William G.
- W. G. Dwyer and J. Spalinski. 1995. Homotopy theories and model categories. In *Handbook of Algebraic Topology*, ed. I. M. James, 73-126. Amsterdam: Elsevier Science B.V.
- Rosenthal, Joachim J.
- M. S. Ravi, J. Rosenthal and X. A. Wang. 1995. On decentralized dynamic pole placement and feedback stabilization. *IEEE Transactions on Automatic Control* 40 (9): 16.
- Sommese, Andrew J.
- A. Biancofiore, E. L. Livorni and A. J. Sommese. 1995. On the complexity of the projective classification of surfaces. *Monatshhefte für Mathematik* 120:1-23.
- Stanton, Nancy K.
- N. K. Stanton. 1995. Homogeneous real hyperface. *Mathematical Research Letters* 2:311-319.

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Physics

- Bishop, James M.
T. Alexopoulos et al., Notre Dame (J. M. Bishop, N. N. Biswas, V. P. Kenny, J. M. LoSecco and J. Warchol). 1995. Charged particle multiplicity correlations in $p\bar{p}$ collisions at $\sqrt{s}=0.3-1.8$ TeV. *Physics Letters B* 353:155-160.
- Biswas, Nripendra N.
See under Bishop, James M. 1995. *Physics Letters B* 353:155-160.
- Dobrowolska-Furdyna, Malgorzata
M. Dobrowolska, H. Luo, and J. K. Furdyna. 1995. Optical properties of diluted magnetic semiconductor quantum structures. *Acta Physica Polonica A* 87:95-99.
See under Xin, Shang Heng. 1995. *Applied Physics Letters* 67:503-509.
- S. W. Short, H. Luo, A. Yin, A. Pareek, M. Dobrowolska and J. K. Furdyna. 1994. Migration enhanced epitaxy and optical properties of CdSe/ZnSe digital alloy quantum wells. *Journal of Vacuum Science and Technology B* 12:1143-1148.
- Furdyna, Jacek K.
See under Dobrowolska-Furdyna, Malgorzata. 1995. *Acta Physica Polonica A* 87:95-99.
See under Xin, Shang Heng. 1995. *Applied Physics Letters* 67:503-509.
See under Dobrowolska-Furdyna, Malgorzata. 1994. *Journal of Vacuum Science and Technology B* 12:1143-1148.
- Garcia, Alejandro
F. E. Wietfeldt, E. B. Norman, Y. D. Chan, M. T. F. da Cruz, A. Garcia, E. E. Haller, W. L. Hansen, M. M. Hindi, R-M. Larimer, K. T. Lesko, P. N. Luke, R. G. Stokstad, B. Sur and I. Zliten. 1995. Further studies on the evidence for a 17 keV neutrino in a ^{14}C -doped germanium detector. *Physical Review C* 52:1028-1040.
- Glazier, James A.
J. C. M. Mombach, J. A. Glazier, R. C. Raphael and M. Zajac. 1995. Quantitative comparison between differential adhesion models and cell sorting in the presence and absence of fluctuations. *Physical Review Letters* 75 (11): 2244-2247.
- Kenney, V. Paul
See under Bishop, James M. 1995. *Physics Letters B* 353:155-160.
- LoSecco, John M.
See under Bishop, James M. 1995. *Physics Letters B* 353:155-160.
- Mathews, Grant J.
S. Lee, D. N. Schramm and G. J. Mathews. 1995. A merger model and globular cluster formation. *Astrophysical Journal* 449:616-622.
- Warchol, Jadwiga
See under Bishop, James M. 1995. *Physics Letters B* 353:155-160.

Xin, Shang Heng

- S. W. Short, S. H. Xin, A. Yin, H. Luo, M. Dobrowolska and J. K. Furdyna. 1995. Quantum-confined stark effect in ZnSe/Zn_{1-x}Cd_xSe quantum wells. *Applied Physics Letters* 67:503-509.

COLLEGE OF ENGINEERING

Aerospace and Mechanical Engineering

- Batill, Stephen M.
See under Renaud, John E. 1995. *Proceedings of the 1995 Design Engineering Technical Conferences, Advances in Design Automation*, 181-188.
- Renaud, John E.
B. A. Wujek, J. E. Renaud, S. M. Batill and J. B. Brockman. 1995. Concurrent subspace optimization using design variable sharing in a distributed computing environment. In *Proceedings of the 1995 Design Engineering Technical Conferences, Advances in Design Automation*, ed. S. Azarm et al., 181-188. New York: American Society of Mechanical Engineering. DE-Vol. 82.
See under Computer Science and Engineering; Brockman, Jay B. 1995. *Proceedings of Concurrent Engineering 1995 Conference*, 121-129.
- Szewczyk, Albin A.
See under Civil Engineering and Geological Sciences; Kareem, Ahsan. 1995. *Engineering Mechanics, Proceedings of the 10th Conference*, 297-300.

Chemical Engineering

- Varma, Arvind
C. R. Kachelmyer, A. S. Rogachev and A. Varma. 1995. Mechanistic and processing studies in combustion synthesis of niobium aluminides. *Journal of Materials Research* 10:2260-2270.
- K. L. Yeung, J. M. Sebastian and A. Varma. 1995. Novel preparation of Pd/Vycor composite membranes. *Catalysis Today* 25:231-236.
- K. L. Yeung and A. Varma. 1995. Novel preparation techniques for thin metal-ceramic composite membranes. *AIChE Journal* 41:2131-2139.

Civil Engineering and Geological Sciences

- Kareem, Ahsan
K. R. Gurley and A. Kareem. 1995. Numerical experiments in ringing and springing of offshore platforms. In *Engineering Mechanics, Proceedings of the 10th Conference*, Vol. 1, ed. S. Sture, 1183-1187. New York: ASCE.

THE GRADUATE SCHOOL OFFICE OF RESEARCH

- M. A. Tognarelli, A. Kareem, J. Zhao and K. B. Rao. 1995. Quadraticization and cubicization: Analysis tools for offshore engineering. In *Engineering Mechanics, Proceedings of the 10th Conference*, Vol. 1, ed. S. Sture, 1175-1178. New York: ASCE.
- F. L. Haan, A. Kareem and A. A. Szewczyk. 1995. The University of Notre Dame atmospheric wind tunnel. In *Engineering Mechanics, Proceedings of the 10th Conference*, Vol. 1, ed. S. Sture, 297-300. New York: ASCE.
- K. R. Gurley, A. Kareem and M. A. Tognarelli. 1995. Wind effects: A non-gaussian perspective. In *Engineering Mechanics, Proceedings of the 10th Conference*, Vol. 1, ed. S. Sture, 151-154. New York: ASCE.

Computer Science and Engineering

Bass, Steven C.

- X. Hu, S. C. Bass and R. G. Harber. 1994. Minimizing the number of delay buffers in the synchronization of pipelined systems. *IEEE Transactions Computer-Aided Design of Integrated Circuits and Systems* 13 (12): 1441-1449.

Brockman, Jay B.

- A. N. Lokanathan, J. B. Brockman and J. E. Renaud. 1995. A multidisciplinary optimization approach to integrated circuit design. In *Proceedings of Concurrent Engineering 1995 Conference*, 121-129. Johnstown, Pa.: Concurrent Technology Corporation.

See under Aerospace and Mechanical Engineering; Renaud, John E. 1995. *Proceedings of the 1995 Design Engineering Technical Conferences, Advances in Design Automation*, 181-188.

Chen, Danny Z.

- D. Z. Chen, V. Estivill-Castro and J. Urrutia. 1995. Optimal guarding of polygons and monotone chains. In *Proceedings of the Seventh Canadian Conference on Computational Geometry*, 133-138. Quebec City, Canada.
- D. Z. Chen, R. J. Szczerba and J. J. Uhran, Jr. 1995. Planning conditional shortest paths through an unknown environment: A framed-quadtree approach. In *Proceedings of the 1995 IEEE/RSJ International Conference on Intelligent Robots and Systems*, 33-38. Vol. 3. Pittsburgh, Pa.
- D. Z. Chen and K. S. Klenk. 1995. Rectilinear short path queries among rectangular obstacles. In *Proceedings of the Seventh Canadian Conference on Computational Geometry*, 169-174. Quebec City, Canada.

Kogge, Peter M.

- P. M. Kogge. 1995. Processors-in-memory (PIM) chip architectures for Peta(F1)ops computing. In *Petaflops workshop, frontiers of massively parallel computation*. McClean, Va.
- P. M. Kogge, T. Sunaga, H. Miyataka, K. Kitamura and E. Retter. 1995. Combined DRAM and logic chip for massively parallel systems. In *16th Conference on Advanced Research in VLSI*, 4-16, Chapel Hill, N.C.: IEEE Computer Society Press.

- P. M. Kogge, T. W. Giambra, H. Sasnowitz and J. F. Mastranadi. 1995. The real time artificial intelligence system. In *IEEE National Aerospace and Electronics Conference*, IEEE #95CH35797, 433-443. Dayton, Ohio.

Electrical Engineering

Bauer, Peter H.

- P. H. Bauer. 1995. Absolute error bounds for block floating-point direct form filters. *IEEE Transactions on Signal Processing* 43 (8): 1994-1996.
- P. H. Bauer and E. I. Jury. 1995. Bounding techniques for robust stability of time-variant discrete-time systems. In *Control and Dynamic Systems*, ed. C. T. Leondes, 59-98. New York: Academic Press.
- S. A. Yost and P. H. Bauer. 1995. Shift-variant m-D systems and singularities on T^m : Implications for robust stability. *IEEE transaction on circuits and systems-Part 1: Fundamental theory and applications* 42 (8): 477-479.
- Michel, Anthony N.
- J. Si and A. N. Michel. 1995. A shift invariant pattern recognition mechanism and its implementation by associative memory. *Neural, Parallel, and Scientific Computations* 3 (3): 349-356.

SCHOOL OF ARCHITECTURE

Crowe, Norman A.

- N. A. Crowe. 1995. *Nature and the idea of a man-made world: An investigation into the evolutionary roots of form and order in the built environment*. Cambridge, Mass.: MIT Press. 270 pp.

Doordan, Dennis P.

- D. P. Doordan. 1995. Simulated seas: Exhibition design in contemporary aquariums. *Design Issues* 11 (2): 3-10.

Stroik, Duncan G.

- D. G. Stroik. 1995. John Russell Pope: Ultimus Romanorum. *American Arts Quarterly* 12 (2): 24-28.

LAW SCHOOL

Shaffer, Thomas L.

- T. L. Shaffer. 1995. The lost lawyer: Failing ideals of the legal profession. *Loyola Law Review* 41 (2): 387-398.

INSTITUTE FOR CHURCH LIFE

Center for Pastoral Liturgy

Bernstein, Eleanor, C.S.J.

- E. Bernstein, C.S.J., ed. 1995. *Liturgical gestures, words, objects*. Notre Dame, Ind.: Center for Pastoral Liturgy. 57 pp.

THE GRADUATE SCHOOL OFFICE OF RESEARCH

RADIATION LABORATORY

Asmus, Klaus-Dieter

- D. M. Guldi, H. Hungerbuhler and K-D. Asmus. 1995. Unusual redox behavior of a water soluble malic acid derivative of C₆₀: Evidence for possible cluster formation. *Journal of Physical Chemistry* 99:13487-13493.

Fessenden, Richard W.

- R. W. Fessenden and P. V. Kamat. 1995. Rate constants for charge injection from excited sensitizer into SnO₂, ZnO, and TiO₂ semiconductor nanocrystallites. *Journal of Physical Chemistry* 99:12902-12906.

Green, Nicholas J. B.

- See under Pimblott, Simon M. 1995. *Research in Chemical Kinetics* 3:117-174.

Hug, Gordon L.

- B. Marciniak, G. L. Hug, K. Bobrowski and H. Kozubek. 1995. Mechanism of 4-Carboxybenzophenone-sensitized photooxidation of methionine-containing dipeptides and tripeptides in aqueous solution. *Journal of Physical Chemistry* 99:13560-13568.

Kamat, Prashant V.

- K. Vinodgopal and P. V. Kamat. 1995. Electrochemically assisted photocatalysis using nanocrystalline semiconductor thin films. *Solar Energy Materials and Solar Cells*. 38:401-410.

- See under Fessenden, Richard W. 1995. *Journal of Physical Chemistry* 99:12902-12906.

Pimblott, Simon M.

- S. M. Pimblott and N. J. B. Green. 1995. Recent advances in the kinetics of radiolytic processes. *Research in Chemical Kinetics* 3:117-174.

UNIVERSITY LIBRARIES

Fuderer, Laura Sue

- L. S. Fuderer. 1995. *Eighteenth-century British women in print: Catalog of an exhibit*. Notre Dame, Ind.: University Libraries of Notre Dame. 61 pp.

Jordan, Sophia K.

- S. K. Jordan. 1995. *Preservation activities in Bulgaria: The state of affairs and possibilities for cooperation*. Washington, D.C.: Commission on Preservation and Access. 12 pp.

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Awards Received and Proposals Submitted

In the period August 1, 1995, through August 31, 1995

AWARDS RECEIVED

Category	Renewal		New		Total	
	No.	Amount	No.	Amount	No.	Amount
Research	8	1,356,657	21	1,078,879	29	2,435,536
Facilities and Equipment	0	0	2	149,425	2	149,425
Instructional Programs	0	0	2	302,500	2	302,500
Service Programs	0	0	5	19,625	5	19,625
Other Programs	<u>0</u>	<u>0</u>	<u>1</u>	<u>10,500</u>	<u>1</u>	<u>10,500</u>
Total	8	1,356,657	31	1,560,929	39	2,917,586

PROPOSALS SUBMITTED

Category	Renewal		New		Total	
	No.	Amount	No.	Amount	No.	Amount
Research	3	653,600	15	3,165,807	18	3,819,407
Facilities and Equipment	0	0	0	0	0	0
Instructional Programs	0	0	0	0	0	0
Service Programs	0	0	0	0	0	0
Other Programs	<u>0</u>	<u>0</u>	<u>2</u>	<u>150,000</u>	<u>2</u>	<u>150,000</u>
Total	3	653,600	17	3,315,807	20	3,969,407

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Awards Received

In the period August 1, 1995, through August 31, 1995

AWARDS FOR RESEARCH

Aerospace and Mechanical Engineering

Renaud, J.
General Motors Cooperative Research
General Motors Corporation
\$7,000 12 months

Jumper, E.
IPA Assignment — Dr. Hugo
Phillips Lab
\$46,234 12 months

Biological Sciences

Carlton, R.
Methane Cycling and Release From Littoral Sediments
National Aeronautics and Space Administration
\$22,000 36 months

Feder, J.
Tradeoffs and Race Formation in the Apple Maggot Fly
National Science Foundation
\$150,000 36 months

Goetz, F.
Ovulation and Ovarian Specific mRNA in Trout
Department of Agriculture
\$164,000 25 months

Muller, I.
Analysis of T Cells in Secondary Leishmania Infection
National Institutes of Health
\$103,742 12 months

Johnson, A.
Hen Follicle Apoptosis Via (ICE)-Related Proteins
Department of Agriculture
\$200,000 36 months

Hyde, D.
Molecular Analysis of Phototransduction
National Institutes of Health
\$214,730 12 months

Civil Engineering and Geological Sciences

Makris, N.
Electrorheological Fluid Damper
National Science Foundation
\$20,000 42 months

Ketchum, L.
Elkhart Environmental Center
City of Elkhart
\$25,000
Elkhart Environmental Center
City of Elkhart
\$25,000

Elkhart Environmental Center
City of Elkhart
\$1,000

Elkhart Environmental Center
City of Elkhart
\$517

Gray, K.
Radiolytic Destruction of Dioxin
Oxychem Technology Center
\$55,231 10 months

Chemical Engineering

Miller, A., Bandyopadhyay, S.
Superconducting Quantum Structures
Purdue University
\$1,510 24 months

Chemistry and Biochemistry

Castellino, F., Bretthauer, R.
Oligosaccharide Assembly on Recombinant Proteins
National Institutes of Health
\$215,481 12 months

Castellino, F.
Plasminogen Mutagenesis
National Institutes of Health
\$380,902 12 months

Huber, P.
Protein Binding Domains on Eukaryotic 5S rRNA and rDNA
National Institutes of Health
\$195,691 12 months

Miller, M.
Asymmetric Synthesis of Antiviral and Antifungal Compounds
Bayer, Inc.
\$8,515 14 months

Nowak, T.
NMR Studies of Metals in Kinases and Related Enzymes
National Institutes of Health
\$273,112 12 months

Computer Science and Engineering

Lumsdaine, A.
Parallelism for Computational Science and Engineering
National Science Foundation
\$78,414 12 months

Electrical Engineering

Bernstein, G.
Ferroelectric Materials Research
Mayo Foundation
\$40,203 12 months

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Lemmon, M., Antsaklis, P.
Fast Algorithms for Hybrid Control System Design
Department of the Army
\$35,000 12 months

Bandyopadhyay, S., Miller, A.
Artificial Quantum Solids
Department of the Army
\$34,992 6 months

Government and International Studies

Saiz, M.
Postdoctoral Fellowship for Minorities
Ford Foundation
\$29,500 24 months

Graduate School

Diffley, P.
Graduate Research Fellowship Program
National Science Foundation
\$69,000 60 months

Mathematics

Alber, M.
Collaborative Research Grant
North Atlantic Treaty Organization
\$6,462 24 months

Philosophy

Plantinga, A.
Warranted Christian Belief
National Endowment for the Humanities
\$29,900 6 months

Sociology

Aldous, J., Hirao, K.
Education and Work Histories of Japanese Women
National Science Foundation
\$2,400 12 months

AWARDS FOR FACILITIES AND EQUIPMENT

Biological Sciences

Martin, V., Boyd, S., et al.
Advanced Optical Imaging
National Science Foundation
\$50,000 24 months

Chemical Engineering

Wolf, E., Fehlner, T., et al.
Acquisition of Detector, Data Processing and Ion Gun System
National Science Foundation
\$99,425 12 months

AWARDS FOR INSTRUCTIONAL PROGRAMS

Biological Sciences

Lamberti, G., Gray, K.
Environmental Stress in Ecosystems
National Science Foundation
\$112,500 24 months

O.S.I.P.A.

Borelli, M.
CANDAX McNair
Department of Education
\$190,000 12 months

AWARDS FOR SERVICE PROGRAMS

Center for Continuing Formation in Ministry

Lauer, E.
Center for Continuing Formation in Ministry
Various Others
\$13,990 1 month

Notre Dame Center for Pastoral Liturgy

Bernstein, E.
Center for Pastoral Liturgy
Various Others
\$3,318 1 month
Center for Pastoral Liturgy
Various Others
\$240 1 month

College of Engineering

Vann-Hamilton, J.
Summer Food Service Minority Engineering Program
Indiana Department of Education
\$1,992 12 months

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Institute for Church Life

Cannon, K.
Institute for Church Life
Various Others
\$85 1 month

AWARDS FOR OTHER PROGRAMS

Graduate School

Diffley, P.
ISWP Fellowship for Ivelin Sardamov
Institute for the Study of World Politics
\$10,500 12 months

Proposals Submitted

In the period August 1, 1995, through August 31, 1995

Aerospace and Mechanical Engineering

Jumper, E.
Fluid-Optic Interactions II
Department of the Air Force
\$175,872 36 months

Center for Applied Mathematics

Atassi, H.
Hydrodynamics and Acoustics of Rotor Blades in
Nonuniform
Department of the Navy
\$91,125 12 months

Civil Engineering and Geological Sciences

Ketchum, L., Carlton, R.
An Investigation of the Slow Sand Filter
National Science Foundation
\$362,617 48 months

Chemical Engineering

Hill, D.
Diffusion and Flow-Induced Segregation in
Homopolymer Melt
National Science Foundation
\$314,456 36 months
Diffusion and Flow-Induced Segregation in
Homopolymer Melt
National Science Foundation
\$314,456 36 months
Varma, A., McGinn, P.
Combustion Synthesis Under Microgravity
National Aeronautics and Space Administration
\$386,603 36 months

Chemistry and Biochemistry

Pasto, D.
Generation of Free Radicals from Arenesulfenates
National Science Foundation
\$293,333 36 months
Rosen, E., Castellino, F.
Tissue Specific Inactivation of von Willebrand Factor
Human Frontier Science Program
\$228,296 36 months
Chetcuti, M.
Water Soluble Unsaturated Metal Complexes
American Chemical Society
\$75,000 39 months

THE GRADUATE SCHOOL OFFICE OF RESEARCH

Computer Science and Engineering

- Chen, D.
Applications of Computational Geometry to Data
Compression
National Science Foundation
\$150,555 36 months
- Lumsdaine, A.
Parallelism for Computational Science and Engineering
National Science Foundation
\$552,266 60 months

Electrical Engineering

- Stevenson, R., Costello, D., et al.
Transmission of Image Data Over Low-Bit-Rate Noisy
Channels
Motorola
\$35,126 12 months
- Bernstein, G.
Ferroelectric Materials Research
Mayo Foundation
\$40,203 12 months

Finance and Business Economics

- Niden, C., Spiess, D.
Determinants of Long-term Acquisition Performance
National Science Foundation
\$89,123 24 months

Government and International Studies

- Lopez, G., Pagnucco, R.
Protecting Human Rights
National Science Foundation
\$316,138 24 months
- Protecting Human Rights
National Science Foundation
\$316,138 24 months

Psychology

- Day, J., Bolig, E.
Children's Social-Cognitive Zone of Proximal
Development
Health and Human Services
\$30,100 19 months

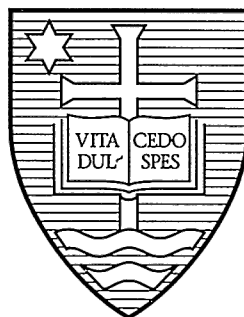
South Bend Center for Medical Education

- McKee, E.
Inositol-Phospho-Glycans and Mitochondrial
Translation
National Institutes of Health
\$48,000 24 months

PROPOSALS FOR OTHER PROGRAMS

Kellogg Institute for International Studies

- Murphy, M.
Problems and Challenges for Contemporary Cuba
Ford Foundation
\$75,000 19 months
- Problems and Challenges for Contemporary Cuba
J.D. and C.T. MacArthur Foundation
\$75,000 19 months



NOTRE DAME REPORT

Volume 25, Number 5

November 3, 1995

Notre Dame Report (USPS 7070-8000) is an official publication published fortnightly during the school year, monthly in the summer, by the University of Notre Dame, Office of the Provost. Second-class postage paid at Notre Dame, Indiana. *Postmaster:* Please send address corrections to: Records Clerk, Department of Human Resources, Security Building, University of Notre Dame, Notre Dame, IN 46556.

Linda M. Diltz, Editor
Marten Schalm, Designer
Julie E. Rogers, Publication Assistant
Gerard Jacobitz, Indexer
Publications and Graphic Services
415 Main Building
Notre Dame, IN 46556
(219) 631-5337

© 1995 by the University of Notre Dame, Notre Dame, IN 46556. All rights reserved.