NOTES AND MATERIALS FROM A CONFERENCE OF UNIVERSITY-AFFILIATED PUBLIC UTILITY RESEARCH CENTERS

May 22-23, 1989

Hosted by The National Regulatory Research Institute,

The Ohio State University, Columbus, Ohio

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CONFERENCE NOTES

On May 22-23, 1989, the National Regulatory Research Institute hosted a small conference of university-affiliated public utility research centers. The idea came out of an informal session among several directors of such centers during the Allied Social Sciences Association meeting in December 1988 in New York City. The purpose was generally to find out more about what each does; compare notes on the organization, operation, focus, and funding of the several research entities; and see if there might be useful link-ups that could be made with each other and perhaps with the the Transportation and Public Utilities Group (TPUG). NRRI devised a draft agenda for the May meeting and paid the expenses of the attendees, other than travel expenses.

In March invitations were sent out to 27 persons who, it was thought, might be interested in attending. A copy of the letter appears as Appendix A. Responses were received from 23 invitees, with 20 acceptances. The list (and addresses and phone numbers) of those who came appears as Appendix B. Four NRRI research directors attended as host/participants.

The conference began with a dinner the evening of May 22nd. A suggested agenda was handed out and adopted. The stated three-fold purpose of the meeting is reproduced here, and the complete agenda appears as Appendix C.

(1) To take stock of university-based public utility research, education, and outreach services and to discuss ways of strengthening them.

(2) To explore the possible usefulness of some forms of cooperation or link-up or information exchange--perhaps through the auspices of the Transportation and Public Utilities Group (TPUG).

(3) To discuss the major emerging trends in the public utility sector that require research attention.

The evening session was devoted to acquainting each other with each of the participating centers--origins, concept, size, structure, source of funds, governance, etc. Most attendees distributed brochures or other informational material on their research centers. A master file of their materials was accumulated at NRRI, and a dozen are reproduced here as representative in Appendix D.

Not surprisingly, great diversity was found among the centers. Some with a communications emphasis had an international bent; others, a domestic or regional focus. Some concentrate on education and training with symposia and conferences, while others emphasize research; and some do both. Products include books, proceedings, studies and reports, literature reviews, working papers, journal articles, and contract research. University financial support ranged from minimal to substantial; utility industry funding was very common, but not universal; several enjoyed funding from public utility commissions.

Governance varied from nearly none to elaborate oversight; the research entities entered the universities through departments, schools and colleges; at least one was degree-granting, a few offered course work, and graduate student participation was common in research activity.

On the morning of May 23, discussion turned to the subjects of relations with university administrators, sponsors, department chairpersons, colleagues, and graduate students. This included incentives to get wider participation in a research center's activities and what needs to be done to create interest and establish a power base form which to operate.

The questions of timeliness of completion of research, enforcement of (some said irrelevance of) deadlines, determination of the research agenda, and review of the research products were next discussed. A sharp distinction was drawn between the role of Boards of Directors and Advisory

Boards in terms of oversight, with the former being an uncommon structure among the attending centers. A preference was voiced for the "British model" of a very generalized charter with the research activities allowed to evolve "naturally" over the "American model" of a very specific written charter and strict accountability.

The group then considered the general question of how the public utility field at the university level could best be served in a period of sustained challenge from all sides, and specifically how TPUG might be harnessed to meet some of the informational needs and useful link-ups among the research centers. Attention was called to the two letters received on the latter subject from Professor Rodney Stevenson, Professor J. Robert Malko, and James Suelflow (Appendix E). Discussion ranged over the possible use of newsletters, BITNET, the NRRI Quarterly Bulletin and the NARUC Bulletin, electronic bulletin boards, and a journal for these purposes. The attracting, teaching, and sharing of faculty and doctoral students in the public utility field were discussed along with the need for disseminating a list of good dissertation topics that really matter. The transfer of relevant credits between universities and among colleges was seen as something that should be facilitated and not obstructed, say between the law school and the business school, or the engineering school and the arts college.

Professor Dennis Ray (University of Wisconsin) agreed to devise a suggested plan for a strengthened relationship between TPUG and university-affiliated research centers by the December 1989 Allied Social Sciences Association meeting in Atlanta.

After lunch the discussion turned to the question of trends in the public utility field itself and what the "hot" research areas are as seen by

Observations were made that while rate of return analyses were definitely on the wane among academics, this was not the case among practitioners; that software for financial analyses of changes in taxes and in debt/capital structure is a major need; that mergers and acquisitions in the electric sector need more analytical attention; that privatization, diversification, and the operation of regional holding companies have not been exhausted as research topics; that demand side management and incentives for investment therein are worthy subjects; that spectrum economics (e.g. auctions), high definition television, and integrated broadband network analysis remain good candidates for research; that some form of national (or at least regional) planning in these utility sectors may need to be revisited in terms of locational effects and economic development considerations; that more tools need to be developed for explaining the behavior of partially regulated firms; and that much more needs to be known about what fuels should be burned, what capacity should be built and who should control it, and how forecasts can best be made in the electric industry.

The conference adjourned at mid-afternoon with expressions of the usefulness of having gathered for an exchange of information.

Douglas N. Jones
Director, NRRI and
Professor of Regulatory Economics
The Ohio State University
Columbus, Ohio

June 30, 1989

The National Regulatory Research Institute

1080 Carmack Road
Columbus, Ohio 43210-1002

614/292-9404

March 15, 1989

Professor Herbert S. Dordick
Chairman
Department of R-T-F
Temple University
Philadelphia, Pennsylvania 19122

Dear Herb:

At the American Economic Association meetings in New York last December, Harry Trebing, Rodney Stevenson, Dennis Ray, Eli Noam, and I hatched an idea that might be of interest to you. Indeed, I'm sure different ones of you have had a similar idea, i.e., to convene a session of directors of public utility research centers which have a university affiliation. We think there may be much to be gained.

In pursuit of the idea, NRRI invites you to attend a Monday evening and all day Tuesday session on May 22-23 here at The Ohio State University. We will pay for lodging and meals, and you would pay your own travel to and from Columbus. We would expect perhaps 15 or 20 persons at the gathering.

While we would see the agenda for the day-and-a-half meeting as loosely structured, the thought is that we would include, say:

. . . taking stock of university based public utility research, education and outreach services and discussion of ways for strengthening and improving these activities.

. . . acquainting each other with the origin, concept, purpose, size and structure, focus and funding of each of our public utility research centers.

. . . understanding the scope and product of the centers as to working paper series; publication of reports, studies, surveys; support for theses and dissertations.

. . . exchanging views on the relation and interpretation of the research centers with the host university, e.g., with central administration and line departments.

. . . identifying possible opportunities for cooperation with each other as to data bases, upcoming programs, joint research activities.

Established by the National Association of Regulatory Utility Commissioners at The Ohio State University in 1976

. . . exploring possible useful relations for all of us with TPUG in terms of facilitating information exchange.

. . . discussing major trends in public utility research, what is being done and what is needed.

Other items would be treated, of course, but making a dent in these would be an accomplishment. We could then decide whether a future meeting would be worthwhile.

I hope you will come. We have in mind beginning with dinner on Monday evening followed by discussion of a couple agenda items. We would make overnight reservations for you.

Sincerely,

Dr. Douglas N. Jones
Director and Professor of
Regulatory Economics

DNJ:jjs

CONFERENCE OF PUBLIC UTILITY RESEARCH CENTERS
MAY 22-23, 1989
PARTICIPANTS

Professor Sanford Berg
Public Utility Center
Department of Economics
University of Florida
Gainesville, Florida 32611
(904) 392-0132

Professor Albert Danielson
University of Georgia Public
Utility Institute
College of Business Administration
Brooks Hall
Athens, Georgia 30602
404 542-3684

Professor Milton Kafoglis
Department of Economics
Emory University
Atlanta, Georgia 30322
404-727-7833

Professor Richard Norgaard
Bureau of Utility Research
School of Business Administration
University of Connecticut
Storrs, Connecticut 06268
3-486-4413

Professor Richard H. Pettway
Financial Research Institute
College of Business and Public
Administration
239 Middlebush Hall
University of Missouri
Columbia, Missouri 65211
3143 882-3800 | BiT Net # FINOITT @ UMCVMB

Professor Patrick C. Mann
Department of Economics
University of West Virginia
Morgantown, West Virginia 26505
304-293-5721

Dr. Harry M. Trebing
Director
Institute of Public Utilities
113 Olds Hall
Michigan, State University
East Lansing, Michigan 48824
17-355-1876 / Fax. 517-355-18?

Dr. Dennis J. Ray
Wisconsin Public Utility Institute
University of Wisconsin
155 Observatory Drive
Madison, Wisconsin 53714
3-263-4180 / DRAY@MACC.WISC.EDU

Professor Thomas MaCain
Department of Communication
The Ohio State University
54 North Oval Mall
Columbus, Ohio

Professor Howard Thompson
Executive Director
Wisconsin Public Utility Institute
University of Wisconsin
1155 Observatory Drive
Madison, Wisconsin 53714
608-262-1991

Dr. Matthew Morey
Vice President
Center for Regulatory Studies
Illinois State University
P.O. Box 593
Normal, Illinois 61761
(309) 438-3747 (or 8685)

Dr. Kenneth Nowotny 505-646-4876
Associate Director
Center for Public Utilities
New Mexico State University
P.O. Box 30001, Dept. 3MPD
Las Cruces, New Mexico 88003

Dr. J.C. Randolph
Associate Dean
School of Public and
Environmental Affairs
Indiana University
Bloomington, Indiana 47405

Professor Curtis Cramer
Public Utility Research
and Training Institute
University of Wyoming
P.O. Box 3985
University Station
Laramie, Wyoming 82071
307-766-3384 (O)

Professor John Tschirhart
Public Utility Research and
Training Institute
University of Wyoming
P.O. Box 3985
University Station
Laramie, Wyoming 82071

Professor Herbert S. Dordick
Chairman
Department of R-T-F
Temple University
Philadelphia, Pennsylvania 19122
(215) 787-8424/8431 / Fax: (215) 787-5735

Professor William Lovett
Law School
6823 St. Charles Avenue
Tulane University
New Orleans, Louisiana 70118
504-865-5960 (W)
895-4117 (h)

Professor Barry Cole
Center for Telecommunications
and Information Studies
Graduate School of Business
809 Uris Hall
Columbia University
New York, New York 10027
212-854-4222

Mr. David W. Wirick 614-292-9404
Associate Director for
Administration
National Regulatory Research Institute
1080 Carmack Road
Columbus, Ohio 43210

Dr. Raymond W. Lawton
Associate Director for
Telecommunications and Water
National Regulatory Research Institute
1080 Carmack Road
Columbus, Ohio 43210
614 292-9404

Dr. Kevin A. Kelly (614) 292-2831
Associate Director for
Electric and Gas Research
National Regulatory Research Institute
1080 Carmack Road
Columbus, Ohio 43210

Dr. Douglas N. Jones (614)-292-9007
Director
National Regulatory Research Institute
1080 Carmack Road
Columbus, Ohio 43210

Professor Jane Fraser 614-292-4129
Industrial & Systems Engineering
The Ohio State University
1971 Neil Avenue
Columbus, Ohio 43210
fraser-j@eng.ohio-state.edu

Associate Dean Paul Isaac
Graduate School
The Ohio State University
230 North Oval Mall
Columbus, Ohio 43210
614-292-6031

CONFERENCE OF UNIVERSITY-AFFILIATED
PUBLIC UTILITY RESEARCH CENTERS
May 22-23, 1989

Hosted by the National Regulatory Research Institute
The Ohio State University, Columbus, Ohio

The purpose of this meeting of university-affiliated public utility research centers is threefold:

(1) To take stock of university-based public utility research, education, and outreach services and to discuss ways of strengthening them.

(2) To explore the possible usefulness of some forms of cooperation or linkup or information exchange--perhaps through the auspices of the Transportation and Public Utilities Group (TPUG).

(3) To discuss the major emerging trends in the public utility sector that require research attention.

Outline of Meeting

May 22, Monday Evening

7:00 p.m. Ashley's Restaurant, Holiday Inn on the Lane

Cocktails and dinner

8:45-10:30 p.m. Buckeye Room Four, 11th Floor, Holiday Inn on the Lane

Adoption of General Agenda

Individual Reporting on Each Participating Center (Activity) - Focus, Size, Origins, Governance, etc.

May 23, Tuesday - Buckeye Room Four, 11th Floor, Holiday Inn on the Lane

8:45 a.m. Public Utility Research Centers and the University

Topics include:
- structure and location (department, school, college, university, "free standing")
- faculty relations, staff status, contracting out, graduate students
- oversight, review or advisory committees, accountability, board of directors
- university support, cash, in-kind, overhead rates

10:00 - 10:15 a.m. Break

10:15 a.m.	Public Utility Research Center Operations Topics include: -how the research agenda is selected -organization for research management -team research vs. individual research -timeliness and quality assurance -publication and dissemination -technical assistance and the provision of information -education, training functions
11:45 a.m.	Depart for Lunch at Faculty Club
1:30 p.m.	Discussion of Forms and Usefulness of Cooperative Ties Topics include: -shared data bases, computer programs, models -upcoming research, programs, speakers -joint research possibilities -mailing lists
2:30 p.m.	Discussion of Trends in the Public Utility Field Topics include: -needed research directions -best research approaches
3:30 p.m.	Adjourn

Session 1638

The Regulators As Partners: Looking After the Community Interest

Douglas N. Jones
Director and Professor of Regulatory Economics
The National Regulatory Research Institute
Columbus, Ohio

Introduction and Setting

My remarks begin with some commentary on how one gets from the overall panel title, "Partnership with Service Industries" to the title of my paper, "The Regulators As Partners: Looking After the Community Interest." The point has properly been made that the service industries have become an ever-larger proportion of our macro-economy. That part of the service industries that is the focus of my paper, the public utility sector, has for many decades been a major and crucial part of the U.S. economy in almost any measure - contribution to GNP, essentiality to the infrastructure, purchaser of materials and supplies (including labor), and user of finance capital.[1] Indeed, with few exceptions, the term "service industries" for much of our history were thought to be comprised mainly of the transportation and fixed utility fields -electricity, natural gas, telecommunications, and water. However, this may be, the characteristics of this particular subset of the service industries was singled out for special public policy attention, namely the imposition of economic regulation by administrative commission. And depending upon which initial landmark one selects there is now a 80-100 year history of federal and state regulation of the transportation and public utility sector.[2]

The occasion, of course, was how to deal with monopoly (or near monopoly) power in these service sectors so that captive (or nearly captive) customers were not abused. In recent years, as is widely known, the idea of partial (or total) deregulation of certain of these sectors has taken hold, but even this phenomenon requires astute public utility commission oversight in managing the transition. In fact utility commissions both state and federal have never been busier, more visible, or more important.

Universities have commonly provided technical assistance to the utilities themselves -mostly of an engineering variety but also through financial and economic analyses. Faculty members, graduate students, and laboratories were the resources, and grants and contracts were the vehicles. Ultimately, the motivation for all this (at least on the part of the private utility) was improved efficiency and/or greater profitability. This was the traditional "partnership with the service industries" to which our panel topic speaks.

A somewhat non-traditional arrangement in this university-business context is where university assistance is routinely provided to the regulators of these service sectors, i.e., banking, finance, insurance, perhaps the hospital industry, and surely the power, telecommunications and water industries. Here the partnership is with the regulators and only indirectly (if at all) with the utility sectors. I use the word "partners" in the first dictionary definition of the word, meaning "associates" and "participants" in the functioning of public utility regulation and not in the later dictionary definition of "players against an opposing side." Regulators and regulation, after all, are not always obstructionist, though sometimes they have to be. Conflicts don't always characterize utility regulation, though conflict resolution is one of the things that commissions do. As is often pointed out, regulators and the regulated companies at some level have similar goals, e.g., reliable service at affordable prices. On other, more specific counts, e.g., rate hikes and allowed profitability, there frequently are substantial differences of view.[3]

Nor should all this be surprising in that there is basically a social contract that surrounds the investor-owned public utility sector in the U.S. The bargain struck is that utility property in these essential services will be privately owned and managed, but with institutionalized public oversight as to amounts and kinds of investment, operating costs and operating characteristics, reliability, and financial returns. In exchange for being granted a franchise with exclusive service territory and certain other special preferences (like eminent domain) the consuming public is to be provided service to all who request it at reasonable prices without undue discrimination.

It is in this setting that universities do research and technical assistance and provide information and analysis to regulators in the latter's duties of administrative regulation of public utilities. Since the regulators' tasks are primarily of the public policy type, the subject matter of this assistance is more often economic and financial than engineering.[4] Here the focus is the larger community interest and not just that of the utility, a particular class of consumers, or the taxpaying public taken alone.

The nature of university assistance can, of course, take several forms. It can be informal and occasional, e.g., individual consulting activity, free or for compensation, or it can be

formal and continuing, e.g., through ongoing contracts (and contacts) between the public service commissions (PSCs) and the universities. It is a major example of the latter arrangement that is the subject of the balance of my remarks -the concept, design, and functioning of The National Regulatory Research Institute (NRRI) located at The Ohio State University.

Partners with Regulators: An Example

The National Regulatory Research Institute was established by the 51 state (and D.C.) public service commissions and their federal counterpart commissions through action by the National Association of Regulatory Utility Commissioners (NARUC) in November 1976 at its 88th Annual Convention in Honolulu, Hawaii. This followed five years of periodic discussions (and sometimes resolutions) by NARUC commissioners and staffs about the desirability and financial feasibility of creating a national center for research on regulatory issues.[5] The idea was that such an institute would perform timely, objective, non-duplicative, germane, mainly applied research available to all PSCs on various facets of electric, gas, telephone, water, and transport regulation. It would also create data bases and devise computer models to assist regulators.

By February of 1976 a NARUC Ad Hoc Committee on Regulatory Research was functioning and at its first meeting decided (among other things) to contact universities to determine their possible interest in supporting a center for regulatory research.[6] Letters were sent to 155 universities requesting proposals for the locating of the research institute. An expression of interest came from 32 universities, and 13 universities actually bid for the institute. In August 1976 the list was narrowed to three universities (Cornell, Wisconsin, and Ohio State), and in October the Ohio State proposal was judged to be the strongest. Significantly, the winning proposal was seen to have "a greater financial commitment to establishing the Institute."[7] It provided for $118,000 of University money the first year and $750,000 over a five-year period. In point of fact OSU has met or exceeded that annual rate of contribution for the entire ten-year period. In 1977 the NRRI was "up and running" in Columbus, Ohio. The regulated service sectors have their Electric Power Research Institute, the Gas Research Institute, (and now) Bell Communications Research, and American Water Works Association Research Foundation. Those federal and state officials who regulate these sectors make use of the research products and technical assistance of the NRRI.

Locating the NRRI on a major university campus (rather than having a "stand alone" enterprise) was an especially wise decision. Not only does it enjoy the traditional university aura of objectivity, but it benefits from (a) the fact that the University's main concern is that university level research come out of it, and (b) the fact that faculty members and graduate students in various appropriate disciplines are available to do research projects on a part time basis alongside the Institute's full time professional staff. Ten to twenty graduate students and a half-dozen faculty members are working from 20 percent to 80 percent time during the academic year and sometimes 100 percent time over the summer.

The Institute is located structurally within the College of Engineering for administrative purposes. The Director is answerable to the Provost on academic matters and to the Board of Directors of NRRI on all other matters having to do with managing the Institute. This dual arrangement is provided in the by-laws of NRRI (ratified by the Trustees of the University the Executive Committee of the NARUC) and reflects the double parentage of the Institute - the states and OSU. It also assures ready access (the few times when it is needed) to the top of both organizations.

Governance of the NRRI is mainly in the hands of the Director (who must qualify for a tenured professorship in an appropriate department) and a 17-member Board comprised of three categories of member - Commissioners (11), University (3), and Public (3).[8] There is also a Research Advisory Committee to NRRI which helps select the research and assistance agenda and has an evaluative role as to the Institute's products (quality and usefulness).[9]

Funding for NRRI is from three sources: so-called regularized funding from NARUC member commissions, contract research and assistance monies from individual PSCs for state-specific research, and (as mentioned) University money. The total annually amounts to nearly $2 million. The proportions typically are 81 percent, 10 percent, and 9 percent, respectively. Thus, NRRI has attracted over $9 million to support its research efforts to date. Some 170 studies and reports have resulted from those efforts, none of which are proprietary and many of which have affected public utility policy formulation in some way. Topics in the four fields include: Electric sector - power pooling and wheeling, operating efficiency and incentives, cogeneration and avoided costs, funding nuclear decommissioning, overruns in plant construction, managing excess capacity, performance evaluation, management audits, regulating subsidiaries, capacity planning and forecasting; Natural Gas sector - wellhead price deregulation, fuel adjustment clauses, gas rate design, gas distribution facilities costing; Telecommunications sector - quality of telephone service, market structures, divestiture and competition, network bypass, access charges, measured rate service, marginal cost pricing, regional holding companies: and Water - acquisition of troubled companies, pricing and rate design, deregulation of small companies.

As can be seen from the above list, the disciplinary emphasis is on economic and financial analysis, sometimes with computer models in central or supporting roles. Accordingly, university departments most often called upon for help are Industrial, Nuclear, Civil, and

Electrical Engineering; City and Regional Planning, Economics, Public Administration, Finance, and Accounting. Faculty members are given the typical "release time" appointments, and are supervised on their research projects by the appropriate NRRI associate director (Electric and Gas or Telecommunications and Water Research Divisions).

Research projects at NRRI are generally one year in duration, but occasionally are as short as two months. All are signed by the authors and are disseminated to all public utility commissioners and their senior staffs, certain members of Congress, and rather widely throughout the academic and journalistic regulatory community. Utilities, law, accounting, and consulting firms are major purchasers of NRRI reports. Analysts (including faculty researchers) occasionally testify in formal hearings before a PSC on the technical content of a study and stand cross examination - sometimes of the hostile kind. In all events it is fair to say that Institute research is not ignored in this arena. Finally, research done under NRRI funding is not infrequently turned by the author into a publishable piece in a refereed journal.

There is one other feature of NRRI as a research entity that requires mention. That is that the Institute (by Board policy) does not do any research for the utility companies themselves. Unlike consulting firms - and for that matter universities - it doesn't "walk both sides of the street." This is not to imply that its orientation is in any way "anti utility company." NRRI has no orientation other than helping strengthen commission regulation and elevating the debate on the major issues confronting regulators. What the prohibition does stem from are the conclusions that (a) by the nature of the regularized state funding, work should not be done for the companies being regulated, and (b) by the nature of the sometimes adversarial arrangement of commission regulation, conflicts of interest could possibly arise.

Finally, the question is occasionally posed whether the concept, form, structure, and function of NRRI can be a useful model for university research centers in other circumstances. Several times it has been examined in this light, for example the case of locating on a campus a research center serving the pharmaceutical industry. The answer would seem to be a qualified, yes, for while the institutional relationships of NRRI are complex, the main interests of both "parents" are well met. From the university's vantage point the outcome is research products serving a public community in a money-making way; and from the states' vantage point the result is objective information and analyses focused on practical issues at bargain prices.

1. See, for example, "The Role of Utilities in the American Economy," as Chapter 1 in Martin T. Farris and Roy J. Sampson, Public Utilities: Regulation Management, and Ownership, Waveland Press, Inc., Prospect Heights, Illinois, 1984.

2. If the passage of the federal Interstate Commerce Act in 1887 and the state Granger laws in the 1870's are used as milestones, a 100-year history results.

3. For a good discussion of these last points see, for example, William G. Shepherd, Public Policies Toward Business, Chapter 12, "Regulatory Methods and Sectors," pp. 339-347, Richard D. Irwin, Inc., Homewood, Illinois, Seventh Edition, 1985.

4. Knowledge of "the hardware" and its operation is, of course, helpful to good public policy research. But the comparative disadvantage of commissions in dealing with utility companies is not in engineering expertise or legal expertise, but more often in economic and financial analysis. Furthermore, much of the engineering dimension is thought to be mainly the business of the utility and not the regulator.

5. The NARUC sponsored Regulatory Information 1971 included a speech by Dr. Haskell Wald, then chief of the Office of Economics, Federal Power Commission calling for a national institute of regulatory research. It was the first of a number of such calls that followed in 1973 and 1975.

6. Minutes of the February 1976 meeting of the Ad Hoc Committee on Regulatory Research, NARUC, Commissioner David Sweet (Ohio), Chairman.

7. Minutes of the October 21, 1976 meeting of the Ad Hoc Committee on Regulatory Research in which a winning proposal was selected for recommendation to the NARUC annual convention the following months.

8. By-laws of the National Regulatory Research Institute, revised February 26, 1982, Article II,

9. 1981 Report of the Ad Hoc Committee on NRRI Funding, NARUC, to the 93rd Annual Convention, San Francisco, California, pp. 4-5.

DOUGLAS N. JONES

Douglas N. Jones is Professor of Regulatory Economics and Director of The National Regulatory Research Institute, The Ohio State University. He received the BA degree in economics from the University of New Hampshire and the MA and PhD degrees in economics from The Ohio State University.

Dr. Jones has a broad experience in policy applied economics and in the federal government, having served as Assistant Chief, Economics Division, Congressional Research Service of the Library of Congress from 1973 to 1978, and Specialist in Public Utility and Transportation Economics over that period. He was legislative assistant to a US Senator and in 1968-1969 was special assistant to the Secretary of Commerce for regional development. He was the chief economist and research director for the President's Committee for Developing Alaska. From 1960-1965, Dr. Jones was an economics professor at the US Air Force Academy.

As Director of NRRI, Dr. Jones manages a dozen research projects annually in the fields of electric, gas, telephone, and water regulation.

THE CENTER FOR REGULATORY STUDIES

Annual Report for the 1988-1989 Program Year

I. Statement of the Board of Directors of the Center For Regulatory Studies

The Center for Regulatory Studies is a not-for-profit, tax exempt institution established to foster education, communication and research on regulatory issues that are of critical importance to consumers, regulators, and utilities in the State of Illinois. The Center was founded in 1985, when the State's regulatory community recognized a need for an objective third-party educational and research institution capable of promoting public utility education, facilitating a free exchange of ideas among members of the broader public utility community, and encouraging research on public utility issues. Development of the Center for Regulatory Studies has been a joint effort by members of the investor-owned utilities, State and local government agencies, consumer groups, and faculty at Illinois State University.

An important facet of the Center's program is motivated by the critical need for education of both the public and the private/governmental sectors on regulatory issues. The objectives of the Center's educational program include:

- improving public awareness of regulatory issues and problems inherent in the regulatory process;
- improving the technical skills of the participants involved in regulatory work;
- supplying the broader regulatory community with technically competent staff.

During fiscal 1989, the Center for Regulatory Studies is working to achieve these goals through

- the development of in-service public utility issues workshops for secondary school social science teachers;
- workshops and conferences for utility, consumer advocate, and regulatory agency staffs on timely state or national regulatory issues;
- technical seminars that provide low-cost continued education for regulatory practitioners with regard to the use of statistics, computer software, and other state-of-the-art techniques pertinent to regulation from the fields of economics and finance.

Research is also an important facet of the Center's program. The Center's close association with Illinois State University and Argonne National Laboratory as well as regulatory specialists throughout the country gives the Center the capability of performing state-of-the-art research on a wide range of issues including those concerned with economic/environmental impacts, pricing and competition in the telephone industry, management of water resources, pricing and transportation in the natural gas industry, and regulation of electric utilities.

The Center's programs are supported through grants, contracts, and membership dues. The Center's research and education agenda is guided by a board of directors, elected by the membership of the Center, and composed of representatives from investor-owned utilities, governmental agencies, and consumer organizations.

II. Center for Regulatory Studies Board of Directors

III. The Center for Regulatory Studies Educational Programs

A. Technical Seminars

The Center, in cooperation with other organizations, is developing a professional education program to serve the needs of the regulatory community. The program, currently in the proposal stage, will take approximately two years to implement fully. The new program will have a core curriculum of:

- microeconomics,
- statistics and econometrics,
- regulatory economics, and
- electives chosen from:
  - engineering economics and project analysis,
  - electric utility operations and regulation,
  - telephone utility operations and regulation,
  - natural gas utility operations and regulation,
  - regulatory finance,
  - regulatory accounting,
  - regulatory law and administrative process,
  - regulation and resource economics,
  - advanced quantitative methods with applications to regulatory analysis, rate design and analysis.

The first phase of the program's implementation will begin in the Fall semester, 1989, with an offering of several courses in Springfield.

B. Professional Practice Internship Program

The Center's Professional Practice Internship Program (PPIP) gives undergraduate and graduate majors in economics and related fields an opportunity to gain first-hand experience in the regulatory field. Students have the opportunity to intern with consumer advocate organizations, at regulatory agencies and utilities for a semester. Undergraduate interns enrolled at Illinois State University may also receive up to six hours of university credit for the experience. For more information about the Professional Practice Internship Program write or call Lon Carlson, P.O. Box 593, Normal, IL 61761, (309) 438-8685.

The PPIP has met with considerable success thus far. Since its inception in the summer of 1987, ten students have been placed with organizations including the Illinois Department of Energy and Natural Resources, the Illinois Commerce Commission, and Illinois Power Company. Three of these students have gone on to full time positions as a result of their internship. Currently, two students are interning at IDENR. It is anticipated that more students will be working as interns throughout the state in 1989.

C. Industrial Fellow Program

Another program currently being developed in conjunction with the formal degree programs at ISU and the proposed professional education program in regulation and public policy is the Industrial Fellow Program. This program is designed to encourage representatives from the regulatory community and the utility industries to actively participate in the educational programs at Illinois State University. Industrial Fellows would be "in residence" at the Center for a period of from three to six months and would teach in the graduate program, attend classes or conduct research on an issue of importance to their organization or the industry. Plans now are for this program to be implemented within the next two years.

D. In-Service Workshops for Secondary School Social Science Teachers

An interesting and extremely beneficial program currently under development at the Center is a series of workshops on regulatory issues to be delivered to secondary school social science teachers. These workshops will provide high school teachers with materials on regulation and the role of public utilities that can be integrated in to the social science studies, government, and introductory economics courses taught in Illinois high schools. This program will be introduced within the next two years.

E. Educational Program for High School Juniors and Seniors

At the request of the Illinois Commerce Commission, the Center has been conducting a two-year pilot program designed to teach high school juniors and seniors about rate making and the regulatory process in Illinois. In cooperation with the Illinois Council on Economic Education (ICEE), the Center has developed Illinois specific educational materials that supplement the video/print program developed by the American Gas Association, called "The Balancing Act: How Utility Rates Are Decided." This program teaches high school students about the rate setting process in general. The Center and the ICEE have developed materials on the Illinois process and designed a workshop program that demonstrates for high school teachers the use of the "Balancing Act" material in government, economics and consumer economics classes. The pilot program has received widespread cooperative support from the Illinois Commerce Commission, the State's electric, gas, telephone and water utilities, consumer advocates and the Illinois educational community. A total of nine workshops have been held through the summer and fall terms in Illinois, reaching approximately 100 primary and secondary school teachers. Approximately twenty percent of those teachers are using the materials in their classes during the fall of 1988.

F. Educational Program for Illinois Farm Bureau

As part of the Center's ongoing effort to expand the impact of its educational programs, the Center will be conducting a one-day workshop on the economics of regulation and the rate setting process for the leaders of the Illinois Agricultural Association. The workshop is designed to teach IAA district leaders about the reasons for regulation of public utilities and the basic aspects of the rate setting process (through a two part rate-case simulation). The workshop is patterned after the Center's successful high school curriculum program called the "Balancing Act: How Utility Rates Are Decided," a program based on the American Gas Association video/print package by the same name. Plans are now being formulated for expanding the reach of this type of program to a variety of organizations throughout the state to improve the understanding of utility issues.

IV. The Center for Regulatory Studies Communication Programs

A. Natural Gas Planning Conference

The Center's second national conference: "Wrestling With Transition: Least-Cost Planning in the Natural Gas Industry," was held at the Palmer House Hotel, Chicago, October 20-21, 1987. This conference focused the gas industry's attention on the critical questions that arise out of the transition to a more competitive market and the need for integrated supply-and demand-side resource planning. Nationally known speakers from across the country addressed a variety of important questions. Proceedings from the conference were published in February, 1988.

B. Telecommunications Workshop

The Center held a two-day conference on the topic of Intra-MSA competition in the telecommunications industry on September 20 and 21, 1988, at the Hilton Hotel in Springfield, IL. Approximately 95 people representing the telephone industry in Illinois and the Illinois Commerce Commission attended the conference. Conference speakers included representatives of telephone companies in the state, the regulatory agencies, and nationally recognized experts in the field of telecommunications.

A second conference is being planned for the spring of 1989, which will focus on the issue of pricing in the intra-MSA market.

C. Natural Gas Workshops

A series of three one-day workshops were held between April and October on issues in the electric and natural gas industries. The first workshop, entitled "Resolving Take-or-Pay Liabilities: Implications for the Natural Gas Industry," was held on April 14, 1988. The focus of this workshop centered on the questions of who should bear take-or-pay liabilities and what proportions they should bear over time. Alternative mechanisms for allocating these costs, as well as general policy issues surrounding the resolution of this problem, were examined and discussed.

The second workshop, entitled "The Theory and Practice of Development/Incentive Rates: Utility Pricing in a Competitive World," was held on April 28, 1988. This workshop explored issues pertinent to the proper design and employment of the class of rates known as "development" or "incentive rates". Topics discussed included 1) the short-and long-run conditions required for these rates to be effective, 2) the value of such rates as an incentive to new and existing businesses, and 3) the conditions necessary for utilities to have an incentive to employ such rates.

The third workshop, entitled "Natural Gas Pricing and Public Policy Issues in a Competitive Environment," was held on October 17, 1988. The focus of this workshop was on the identification of the salient issues regarding pricing of natural gas sources in general and, in particular, the allocation of take-or-pay costs. In addition, policy issues regarding storage and marketing decisions that directly affect the ability of gas distribution companies to meet their service obligations were addressed. All three workshops were held in Springfield, IL.

D. Natural Gas Conference

The Center's first national conference of 1989 will focus on the natural gas industry and the directions it will take in the coming decade. Scheduled for January 30 - 31 at the Hyatt Regency Hotel in Chicago, "Evolution or Revolution: Directions for the Natural Gas Industry in the 1990s" will feature nearly 60 nationally recognized speakers addressing such topics as: the role of futures markets; supply planning in the face of commodity shortages and capacity constraints; the

role and position of the merchant function; the obligation to serve within a changing market structure and many other issues of vital interest to regulators, legislators, gas supply planners, marketers, pipelines, suppliers, brokers, distributors and consumer advocates. Proceedings from the conference will be published by the Center.

E. Energy and the Environment Conference

In September of 1989, the Center will host another conference of interest to the energy industry, entitled "Energy and the Environment: In Search of an Ecological-Industrial Balance." The Center will draw on nationally and internationally known experts on the environment and energy to address serious and fundamental questions concerned with achieving a balance between the provision of energy for economic growth and the long-term preservation of the environment. This conference will appeal to environmentalists, legislators, academicians, regulators, and energy industry decision makers.

V. The Center fo Regulatory Studies Research Programs and Activities 1988 - 89

A. The Northern Illinois Alliance to Support Least-Cost Utility Planning

In the Spring of 1988, the Center was awarded sole source contracts with the Northeastern Illinois Planning Commission and the City of Chicago to conduct research and organize workshops for the Northern Illinois Alliance to Support Least-Cost Utility Planning (Alliance). The principal research tasks completed by personnel in the Center consist of:

- a study of gas supply portfolio management by local distribution companies in the natural gas industry,
- a study of the effects of alternative interpretations of obligation to serve on the competitive nature of the natural gas industry,
- a study of consumer perceptions of information on energy conservation provided by local utilities, and
- a study of consumers' valuations of reliability in the provision of electricity.

Additional research consists of a study of the transferability of studies on technological innovation in the area of energy conservation and other least-cost planning strategies to the northern Illinois area and a series of three white papers.

The Center organized a series of four workshops focussing on topics relevant to the least-cost planning process. The first workshop, held in August, addressed the history and regulation of the electric and natural gas industries. The second workshop, held in October, dealt with least-cost utility planning. Planning and forecasting techniques were the subject of the third workshop, which was held in November. The last workshop dealt with the issues concerning industrial users and was held in December of 1988. The workshops were attended by Alliance Forum members, regulators, and other interested parties.

Negotiations are currently underway between the Center and the Alliance for a series of workshops that would take place in the Spring of 1989. These workshops would be organized by the Center and would focus on the implementation of least-cost planning in Illinois, under the mandate of the Public Utilities Act.

B. Economic Impact Study Conducted for IDENR

In the fall of 1988, the Center was awarded a contract with the Illinois Department of Energy and Natural Resources (IDENR) to conduct a study of the potential costs and benefits of proposed restrictions on the land disposal of hazardous wastes in Illinois. The study is of critical importance to industries in Illinois. The costs of disposing or otherwise treating hazardous wastes are substantial. Consequently, any action that significantly alters the disposal options available to waste generators will have a large impact on the costs of disposal and, ultimately, production costs.

C. Future Research Activities

The Center has plans to submit a proposal to the Lilly Foundation, the Joyce Foundation and the IDENR to study the economics of water management in Illinois and the midwest. Regulation and management of water resources in Illinois and the midwest are not necessarily governed by economic principles. With the effects of the recent drought as a reminder of how dependent the Illinois economy is on water, it is important now to deal with the issues of pricing, cost allocation and supply management.

VI. Center for Regulatory Studies Staff and Qualifications

J. Lon Carlson
- Secretary-Treasurer of CRS
- Ph.D., Economics, University of Illinois
- Assistant Professor, Economics, Illinois State University.
- Former Economist, General Accounting Office
- Research work in:
  Law and Economics and Environmental Economics
- Author of technical papers on the economics of hazardous waste disposal and legal and economic aspects of administrative rulemaking.

Kenneth Costello (currently on leave with the ICC)
- M.A., Economics, Marquette University
  Completed all Ph.D. coursework, University of Chicago
- Economic consultant:
  Illinois Department of Energy and Natural Resources on ratemaking issues; Illinois Commerce Commission on ratemaking issues.
- Former Senior Economist and Acting Program Director, Policy Analysis and Research Division, Illinois Commerce Commission.
- Former Staff Analyst, Commonwealth Edison Company.
- Lecturer on public utility economics, regulation, incentive regulation and efficiency.

Ross Hemphill
- Cofounder of CRS
- Ph.D., Resource Economics, The Ohio State University
- Associate Economist, Argonne National Laboratory
- Former Graduate Research Associate, National Regulatory Research Institute
- Former Rate Analyst, Rate Research and Design Division, American Electric Power Service Corp.
- Has prepared legal testimony in numerous cost-of-service and rate design hearings for Illinois natural gas and electric utilities
- Author of numerous technical reports and research papers on regulatory matters.

Karl McDermott
- Cofounder and President of CRS
- Ph.D., Economics, University of Illinois
- Associate Researcher, Illinois State University
- Economic Consultant:
  Select Joint Subcommittee on Regulatory Reform, Illinois Legislature
  Governor's Sunset Task Force on Utility Regulatory Reform, Illinois Department of Energy and Natural Resources
- Has prepared legal testimony in numerous rate hearings for the Illinois Commerce Commission
- Author of numerous technical reports and research papers regarding regulatory matters.

Mathew Morey
- Cofounder and Vice President of CRS
- Ph.D., Economics, University of Illinois
- Associate Professor, Economics, Illinois State University
- Statistical Consultant:
  Various utilities on statistical modelling
  State Board of Tax Commissioners, Indiana and California on railroad tax issues
- Has prepared legal testimony concerning statistical questions in tax cases
- Author of several articles and technical papers on statistical and econometric issues.

Brandt Stevens
- Ph.D., Economics, University of California-Riverside
- Assistant Professor, Economics, Illinois State University
- Former Economist, California EPA
- Research work in:
  Environmental and natural resource economics and environmental regulation
- Author of several articles on environmental and natural resource issues

Mark Walbert
- PH.D., Economics, University of New Mexico
- Assistant Professor, Economics, Illinois State University
- Former Economic Analyst, Illinois EPA
- Former Economic Analyst, Los Alamos National Laboratory
- Research work in:
  Environmental and natural resource economics and air pollution regulation

VII. Center for Regulatory Studies Selected Papers

"Wrestling With Transition: Least-Cost Planning in the Natural Gas Industry." Proceedings from a conference on least-cost planning in the natural gas industry held in Chicago, Illinois, October, 1987. Published by the Center for Regulatory Studies, January, 1988.

"Least-Cost Utility Planning: A Symposium." Proceedings from a conference on least-cost planning in the electric utility industry held in Chicago, Illinois, February, 1987. Published by the Electric Power Research Institute, May, 1988.

"Decentralization Versus Coordination: An Examination of the Options for Deregulation the Electric Supply Industry," K.A. McDermott, June, 1986.

"On the Impact of Self-Selective Tariffs in Telecommunications Markets: The Design of an Experiment," K.A. McDermott, M.J. Morey, and K. Costello, September 1986, presented at the Fifth Biennial Regulatory Information Conference, Columbus, Ohio.

"Minimizing the Cost of Energy to Consumers as a Group," R. Hemphill, August, 1986.

"The Role of Prices and the Pricing System on Theory Within the Regulatory Process," K.A. McDermott, October, 1986.

"An Evaluation of the Minimization of Total Revenue Requirements as an Objective in State-Wide Utility Planning Process," K.A. McDermott, November, 1986.

"Minimizing the Price of Energy Service Through Least-Cost Integrated Resource Plans," M.J. Morey, November, 1986.

"Economic Impact Study of Proposed IPCB Regulation R82-14, Sections 215.204 and 215.207," R. Hemphill, M. Walbert, W. Chambers, and D. South, prepared under contract EA-34 with the Illinois Department of Energy and Natural Resources.

VIII. Center for Regulatory Studies Financial Support

The Center is grateful for support from:

Alltel Illinois, Inc.
American Gas Association
American Water Works Service Company
Argonne National Laboratory
Central Illinois Light Company
Central Illinois Public Service Company
Central Telephone Company
Citizens Utility Board
City of Chicago
Commonwealth Edison Company
Continental Telephone Company
Electric Power Research Institute
Gas Research Institute
General Telephone Company of America
Governor's Office of Planning
Illinois Bell Telephone Company
Illinois Commerce Commission
Illinois Consolidated Telephone Company
Illinois Department of Commerce and Community Affairs, Small Business Utility Advocate
Illinois Department of Energy and Natural Resources
Illinois Industrial Utility Consumers
Illinois Manufacturers Association
Illinois Power Company
Illinois State Chamber of Commerce
Illinois State University
Illinois Telephone Association
Iowa-Illinois Gas and Electric Company
Northern Illinois Gas Company
North Shore Gas Company
Peoples Gas Light & Coke Company

The Center is especially grateful for the financial support of its members:

Corporate
ANR Pipeline Company
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Illinois Power Company
Natural Gas Pipeline Company of America
Northern Illinois Gas Company
Panhandle Eastern Pipeline Company
Peoples Gas Light & Coke Company

Public
Archdiocese of Chicago
Illinois Farm Bureau
Illinois Office of Public Counsel
Illinois State University
Institute for Government and Public Affairs, University of Illinois

Individual
David Anderson
William Geekie
Leslie Recht
Edgar Wotring

To become a member of the Center for Regulatory Studies, or to be placed on the Center's mailing list, please contact:

Mathew J. Morey
The Center for Regulatory Studies
P.O. Box 593
Normal, Illinois 61761
(309) 438-3747 or (309) 438-8685

PUBLIC UTILITY RESEARCH CENTER

University of Florida

PURPOSE

PURC's goals and objectives, as formulated at its inception in 1971, are:

. To increase student and faculty awareness of and knowledge about the utility industry.
. To undertake research designed to help solve problems faced by the energy and communications industries.
. To train students for employment by utility companies and commissions.

ORGANIZATION

PURC is sponsored by 13 energy and communications groups in the State of Florida and the Southeast, as well as by the Florida Public Service Commission. Officers of the sponsoring companies, the Florida PSC, the Florida Public Counsel, and the University serve on the Executive Committee, which establishes broad policy guidelines, identifies specific problem areas that warrant research, approves the operating budget, and helps PURC obtain data, other information, and feedback on research studies.

PROGRAMS

PURC operates several programs designed both to train students and to produce useful research. These include: student support programs, faculty research programs, workshops and seminars, and instructional assistance.

STUDENT INTERNSHIPS

PURC places qualified MBA and Master's students in member organizations for summer internship programs. In recent years, PURC students worked at AT&T, Florida Power Corp., FP&L, Gulf Power Corp., the Florida Public Service Commission, and TECO. PURC is encouraging other organizations to participate in the internship program.

ANNUAL CONFERENCE

Each year PURC hosts a Conference at which topics of mutual interest to the utility industry and the university community are discussed. The 1989 Conference will be held February 2-3 in Gainesville, Florida, and will feature Fred Kahn as the keynote speaker.

PUBLICATIONS

PURC researchers publish journal articles and books; in addition, PURC maintains an active Working Paper series and encourages faculty to present findings in various forums, including academic and professional meetings, legislative hearings, and PSC hearings.

INFORMATION

For further information regarding PURC, please contact Sanford V. Berg, Public Utility Research Center, University of Florida, Gainesville, FL 32611. Phone: 904/392-6148.

FINANCIAL RESEARCH INSTITUTE

Director, Professor Richard H. Pettway
University of Missouri-Columbia
239 Middlebush Hall
Columbia, MO 65211
(314) 882 - 3800

Goals and Objectives:

The objectives of the Financial Research Institute, FRI, are to foster, promote, and stimulate the faculty and students to perform financial research to solve the major problems of business and government. The FRI performs contract research on finance subjects, provides development grants to faculty and students, and disseminates research results through publications, meetings, presentations, and symposiums. The research efforts supported by the FRI adds more reality to classroom instruction, better preparing students to meet the business and professional challenges that they encounter.

FRI is interested in supporting research in all fields of finance, but special emphasis is placed upon the topics in financial institutions and markets, financial regulation, and in public utility finance and regulation. With economic uncertainties and ongoing deregulation of financial markets and institutions, it is particularly timely that FRI becomes an important research resource for bankers and regulators. Public utilities also depend heavily upon quality financial research, and the FRI can be a significant provider of these services.

Beginning Date: July 1, 1988.

Activities

Conferences Sponsored:
September 30, 1988: Inter-University Finance Symposium: Columbia, Mo. Three speakers: Professor Stewart C. Myers, MIT; Professor Michael J. Brennan, UCLA; Professor Edward Kane, Ohio State University. Participants: 120 Faculty and graduate students from seven mid-western states.

November 11-12, 1988: University of Missouri Banking Symposium "Current Banking Issues: Regulation, Competition and Structure" Columbia, Mo. Five speakers presented: Senator Christopher "Kit" Bond, U.S. Senate; Martha R. Seger, Board of Governors, FRS; Eugene W. Kuthy, Commissioner of Financial Institutions Bureau, State of Michigan; Thomas B. Fitzsimmons, Missouri Commissioner of Finance, State of Missouri; Steven K. Scholzen, FDIC. Participants: 100 Bankers from the mid-west and graduate students.

Conference Participation and Presentations:
Richard H. Pettway, Vice President for Annual Program, Financial Management Association. Program held in New Orleans, LA, October 19-22, 1988. Participants: 600 academic finance professionals.

Attended and made presentation to the Fifteenth Annual Rate Symposium, "Pricing Electric, Gas and Telecommunications Services: Today and for the Future." St. Louis, MO February 5-8, 1989. The Symposium is sponsored by The Missouri Public Service Commission, The University of Missouri-Columbia, and Utah State University. "Impacts of Diversification by Public Utilities on the Cost of Capital," was presented by Richard H. Pettway.

Attended and made presentation to the Twenty-First Financial Forum of The National Society of Rate of Return Analysts, Washington, D.C. May 10-11, 1989. "Estimating Cost of Capital in Complex Capital Structures: The Case of Diversification and Use of Parent Debt Financing."

Attended and made presentation to the Annual Meeting Pacific-Basin Finance Conference Taipei, Taiwan, R.O.C., March 13-15, 1989. "Japanese Mergers: Relative Size, Corporate Collectivism, and Shareholders' Wealth," presented by Richard H. Pettway.

Research Sponsored:

R. H. Pettway, T.C. Tapley, and T. Yamada. "The Impacts of Financial Deregulation Upon Trading Efficiency and the Levels of Risk and Return of Japanese Banks," Financial Review Vol. 23, No. 3 (August 1988), pp. 234-268.

K. P. Scanlon, J. W. Trifts, and R. H. Pettway. "The Impacts of Relative Size and Industrial Relatedness on Returns to Shareholders of Acquiring Firms," Journal of Financial Research (Forthcoming, Summer 1989).

R. H. Pettway. "Impacts of Diversification by Public Utilities on the Cost of Capital" Proceedings of the 15th Annual Missouri Rate Conference. (Columbia, MO. University of Missouri, forthcoming 1989).

R. H. Pettway. "Underwriting Japanese Long-Term National Bonds," in Japanese Capital Markets Edited by Edwin J. Elton and Martin J. Gruber (New York: Ballinger Company, forthcoming Fall 1989).

R. H. Pettway, N. Sicherman, and T. Yamada. "Japanese Mergers: Relative Size, Corporate Collectivism, and Shareholders' Wealth," in Japanese Capital Markets Edited by Edwin J. Elton and Martin J. Gruber (New York: Ballinger Company, forthcoming Fall 1989).

THE WISCONSIN PUBLIC UTILITY INSTITUTE

Its Objectives, Structure, and Activities

Introduction

Because public utility issues are continuously evolving in substance and significance, the need for understanding those issues remains substantial and significant. This need challenges utilities, regulatory agencies, consumer and environmental groups, and numerous other organizations. The challenges facing this broader public utility community result from events exemplified by market restructuring, mergers and acquisitions, shifting state and federal policies, changing demand trends, and technological innovations. To meet these challenges effectively, all members of this community need a full understanding of significant issues, of alternative actions, and of the concerns of individual community members.

The Wisconsin Public Utility Institute fosters that understanding by facilitating public utility research, and by sponsoring programs that provide information and that invite open exchanges of ideas on public utility issues. Over one thousand people from numerous organizations, agencies, and companies have attended Institute programs. Their reactions have been positive and enthusiastic. They have found in these programs a balanced appraisal of current issues and a stimulating atmosphere that encourages discussion. The Institute seeks diversity in program participants, program faculty, and Institute membership. This diversity keeps balance in the Institute's programs by insuring the

expression of different perspectives at those programs. Maintaining this diversity is an on-going Institute objective.

In summary, the Institute continues to make noteworthy contributions to the broader public utility community, as it has since its creation and association with the Graduate School of Business at the University of Wisconsin-Madison in 1982. In all of its activities, the Institute encourages balanced, objective assessments of policy issues and does not advocate specific public policies.

This report summarizes the Institute's activities, highlighting the types of programs offered in the past and identifying directions for future programs. The report also describes the Institute's structure and membership.

Institute Activities: Education and Public Policy Forums

The Institute provides a variety of educational opportunities. Two Institute courses, the Energy Utilities and Regulation Course (offered in September) and the Telecommunications Utilities and Regulation Course (offered in May) furnish basic education on public utilities and regulation. These courses evolved from a basic course begun in 1982 that combined energy and telecommunications topics. The Institute responded to the need for more emphasis on industry-specific issues by splitting that course into the separate energy and telecommunications courses it offers today. Tables 1 and 2 summarize session topics in the courses that were held in 1988.

In both courses, participants benefit in several ways. They gain knowledge about and insight into current and future issues facing utilities, regulators and other members of the broader public utility community. They also benefit from opportunities to meet fellow

TABLE 1

SESSION TOPICS FOR THE 1988
ENERGY UTILITIES AND REGULATION COURSE
(FIVE-DAY PROGRAM)

Basic Industry Structure and Regulatory Agencies
Electric Utility Technology and Operations
Natural Gas Utility Technology and Operations
Revenue Requirement Determination
Public Utility Accounting
Overview of Rate Design and Cost of Service Methods
Costing Practices in the Energy Utility Industries
Electricity Pricing Issues: Retail, Wholesale, and Bulk Power
Gas Pricing Issues: Distribution and Pipeline
Planning in the Electric Utility Industry
Gas Supply Purchasing Practices in the Natural Gas Industry
Regulatory Practices of the Public Service Commission of Wisconsin
Current Electric Utility Environmental Issues and Policy Options
Long-Range Outlook for the Supply and Use of Natural Gas
Programs Addressing the Energy Needs of Low-Income Households
Federal Policies Affecting Competition
Diversification and the Formation of Holding Companies
Outlook for the Energy Utility Community and for Regulation

TABLE 2

SESSION TOPICS FOR THE 1988
TELECOMMUNICATIONS UTILITIES AND REGULATION COURSE
(FOUR-DAY PROGRAM)

Basic Industry Structure and Regulatory Agencies
Basic Telecommunications Technology, Operations and Services
Technological Innovations and the Emergence of New Telecommunications Services
Development of the Telecommunications Industry: 1876-1988
Telecommunications Utility Accounting
Revenue Requirements
Overview of Costing and Pricing of Telecommunications Services
Current Pricing Issues: Local Service, Toll Services and Access Charges
Federal and State Initiatives for Increasing Competition in the Telecommunications Industry
Perspectives on the Future Role of State Agencies in Regulating Telecommunications Services

participants and speakers from utilities and their associations, federal and state regulatory agencies, the state legislature, accounting and law firms, consumer and environmental groups, and the university. These contacts help participants appreciate the wide-ranging perspectives that exist on particular issues.

In addition to these two courses, the Institute offers forums, seminars, workshops and public lectures on specific topic areas. Table 3 lists such programs that the Institute has sponsored since 1982. These programs on specific topics serve multiple purposes. They inform people about the program topic, and they stimulate discussions in settings that encourage open sharing of perspectives and opinions. In addition, the seminars directed toward the university community stimulate interest in public utility issues among members of that community.

The recently added visiting scholar program (noted in Table 3) adds a new dimension to the Institute's activities. In this program, an individual with substantial background in the public utility area, whether in research, public policy-making or both, is invited to the university to meet with people from the university, utilities, government, and other organizations to examine current public utility issues. In the Institute's first such program, held in October of this year, Commissioner Eli Noam from the New York State Public Service Commission and Professor at the Graduate School of Business at Columbia University (on-leave) conducted a public lecture, a discussion, and a seminar on telecommunications issues. He participated in informal meetings as well.

TABLE 3

FORUMS, SEMINARS, WORKSHOPS AND PUBLIC LECTURES FROM 1982-1988

General Topic Areas
Society's Management of Environmental Health Risks (1985)
Public Utility Issues and the Legislative Process (1983, 1985)
P.S.C. Seminar Series on Current Topics of State Regulatory Interest (1984, 1985)

Electric Utilities
Forum on Competition in the Electric Utility Industry (1988)
Utility Risk Analysis and Planning (1987)
Environmental Planning for Electric Utilities: The Wisconsin Advance Planning Process (1987)
Seminar on Competition and Deregulation in the Electric Power Industry (1986)
Municipal Utility Workshop (1983)

Natural Gas Utilities
Current Issues in Natural Gas Pricing (1983)
The Evolving Natural Gas Industry: Implications for State Regulatory Policies (1987)

Telecommunications Utilities
Visiting Scholar Public Lecture and Seminars by Eli Noam, New York State Public Service Commission Commissioner and Professor, Columbia Graduate School of Business (1988):
- Effects of Deregulation in the U.S. Telecommunications Industry and the Next Regulatory Agenda
- Current Issues in the Cable Television Industry
- Integration vs Fragmentation as Driving Forces in the Telecommunications Environment: Technical, Legal and Economic Aspects

Managing for the Future: Long-Range Planning for Small Telecommunications Companies (1988)
Strategic Planning for Telecommunications Companies (1987)

The Institute also offers roundtable discussions to encourage open discussions on public policy questions. These discussions differ from the special topic programs listed in Table 3 in that specific participants are invited to attend and that all roundtables are at no cost to the participants. Table 4 lists topics for the roundtable discussions that the Institute has sponsored since 1982.

TABLE 4

ROUNDTABLES FROM 1982-1988

Low-Level Radioactive Waste Disposal Issues in Wisconsin (1987)
Customer Confusion in the Changing Telecommunications Environment (1986)
Use of Mediation and Negotiation in Public Utility Regulation (1985)
Sustaining Universal Service in an Open Telecommunications Market (1984)
Role of Energy Utilities in Economic Development (1984)
Energy Needs of Low-Income Households (1983, 1984)

Institute Activities: Research

Objective, quality research on public utility and regulatory topics can play a vital role in helping members of the broader public utility community deal with the problems they face. The Institute strives to facilitate such research on the university campus. Campus seminars sponsored by the Institute provide opportunities for information sharing and for identifying research needs. A public utility paper series to be initiated by the Institute will distribute research work early in its development, and will encourage the dissemination of research findings. The Institute will also continue to urge graduate students to pursue public utility research topics.

As an example of recent Institute activities that encourage research, over the last year the Institute has facilitated discussions on the possible benefits and structure of a state organization that would support energy utility demand-side research. Those discussions appear to be leading to the creation of such an organization. The need for public utility research is great, and over time the Institute hopes to find ways to stimulate more of that research.

Executive Board and Staff

The Institute's Executive Board insures that the Institute's programs attend to the needs of the broader public utility community. The Board sets Institute policies, approves programs (including content, speakers, budgets and fees), monitors and evaluates Institute activities, and establishes membership fees.

Board members come from the Public Service Commission, utilities, citizen and environmental groups, the state legislature, firms providing accounting and legal services, and the University of Wisconsin. The list of current members is given in Table 5.

The Institute's staff provides the program development and administrative skills as well as the diversity in background required to offer the high quality programs the Board and Institute members expect from the Institute. The current Institute staff members are Howard Thompson, Executive Director; Dennis Ray, Director; and Kyra Sido, Program Manager.

Current Institute Staff Members		
Howard Thompson Executive Director	Dennis Ray Director	Kyra Sido Program Manager

Howard Thompson is a Professor in the Finance Department of the School of Business at the University of Wisconsin where he teaches finance courses and conducts research, much of which has relevance to public utilities. Dennis Ray received his doctorate through the public utilities program at the School of Business, University of Wisconsin. In addition to his Institute work, he conducts public utility research, and lectures at the School of Business in managerial economics and public utilities. Kyra Sido's law degree is from the University of

Wisconsin where she also taught a course on public utility regulation, and has appeared before the Public Service Commission of Wisconsin.

TABLE 5

WISCONSIN PUBLIC UTILITY INSTITUTE'S
CURRENT EXECUTIVE BOARD MEMBERS

Walter Borner State Director-Regulatory Affairs GTE North Incorporated	Richard Osborne (Vice-Chair) Vice President-Marketing and Public Affairs Wisconsin Gas Co.
Donald Brown Vice President Telephone & Data Systems, Inc.	David Penn (Chair) General Manager Wisconsin Public Power, Inc. System
Donald Counsell Assistant Vice President- Regulatory Wisconsin Bell, Inc.	Cheryl Pofahl Executive Assistant Public Service Commission of Wisconsin
Lee Cullen Partner Cullen, Weston, Pines and Bach	David Porter Vice President of Corporate Planning Wisconsin Electric Power Co.
John Darling Partner Kiesling and Associates	Dennis Ray Director Wisconsin Public Utility Institute
David Ellestad Vice President-Electrical Engineering and Procurement Wisconsin Power and Light Co.	Thomas Rutkowski Corporate Energy Manager Briggs and Stratton
James Hickman Dean School of Business University of Wisconsin-Madison	Howard Thompson Executive Director Wisconsin Public Utility Institute Professor of Finance University of Wisconsin-Madison
Richard Kneiser Partner Arthur Andersen & Co.	William Te Winkle Democrat, 9th Senate District Wisconsin State Senate
Susan Mudd Wisconsin State Director Citizens for a Better Environment	Ramon Wagner Director Community Advocates

Rodney Stevenson, Associate Professor of Business in Transportation and Public Utilities, played an instrumental role in founding the Institute. After its formation, he served as the Institute's Executive Director until July of 1988. He is currently on sabbatical leave in Japan where he is continuing to pursue his public utility research interests.

Faculty Advisory Committee

The Institute's Faculty Advisory Committee advises the Institute on its educational and research programs, and participates in various Institute activities. Committee members are drawn from the faculty of the University of Wisconsin-Madison based on their expertise, experience and interest. The current members of the Faculty Advisory Committee are listed in Table 6.

TABLE 6

FACULTY ADVISORY COMMITTEE

William Gormley Associate Professor Political Science Associate Director, Robert M. La Follette Institute of Public Affairs	James Skiles Professor of Electrical Engineering Director, Energy Research Center
Mark Hanson Assistant Professor Environmental Studies and Urban and Regional Planning	John Steinhart Professor of Geology and Geophysics, and Inst. for Environmental Studies Chair, Energy Analysis and Policy Studies Faculty
Thomas Heberlein Professor of Rural Sociology Director Natural Resources Policy Center	Jon Udell Irwin Maier Professor of Business
Barry Orton Associate Professor, Communications Associate Faculty, Department of Urban and Regional Planning	

Membership

Membership in the Institute is open to all members of the broader public utility community such as utilities, government agencies, utility customers, citizen groups, consultants and associations. Institute members for the 1987 program year are listed in Table 7.

TABLE 7

WISCONSIN PUBLIC UTILITY INSTITUTE MEMBERS

Sustaining	Contributing
GTE North Incorporated	Arthur Andersen & Co.
Wisconsin Bell	Foley & Lardner
Wisconsin Electric Power Co.	Madison Gas & Electric Co.
Wisconsin Gas Co.	Telephone & Data Systems, Inc.
Wisconsin Power & Light Co.	Wisconsin Public Power, Inc. System
Basic	
Boardman, Suhr, Curry & Field	Southeast Telephone Co. of Wisconsin, Inc.
Cook & Franke S.C.	Superior Water, Light & Power Co.
Cullen, Weston, Pines & Bach	The State Long Distance Telephone Co.
Dairyland Power Cooperative	United Telequipment Corp.
John Russell Associates, Inc.	Virchow, Krause & Co.
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Lazard Freres & Co.	Wisconsin Fuel & Light Co.
Municipal Electric Utilities of Wisconsin	Wisconsin Manufacturers & Commerce
Northern States Power Co.	Wisconsin Natural Gas Co.
North-West Telephone Co.	Wisconsin Paper Council
Platteville Telephone Co.	Wisconsin Public Service Corp.
Power System Engineering, Inc.	Wisconsin Southern Gas Co.
Public Service Commission of Wisconsin	Wisconsin Utility Investors, Inc.
R. W. Beck and Associates	
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Smith Barney, Harris Upham & Co., Inc.	

Publications Catalog

Institute of Public Utilities
Graduate School of Business Administration
113 Olds Hall
Michigan State University
East Lansing, Michigan 48824-1047
1989

The Institute of Public Utilities was established at Michigan State University in July 1965 for the purpose of promoting study, research, and teaching in the field of public utilities. The Institute seeks to stimulate greater academic participation at all levels of analysis and to promote interaction and the exchange of ideas between regulators, industry, and the academic community.

To accomplish these objectives, the Institute encourages and supports research in the field of public utilities, maintains an active publications program, and sponsors seminars and conferences on subjects pertinent to the public utility industries and regulation.

For information regarding programs and activities, contact the Institute of Public Utilities, 113 Olds Hall, Michigan State University, East Lansing, Michigan 48824-1047. Telephone: (517) 355-1876.

Book Order Form

(All prices in U.S. dollars)

____ Alternatives to Traditional Regulation: Options for Reform $22.50

____ New Regulatory and Management Strategies in a Changing Market Environment $19.50

____ Public Utility Regulation in an Environment of Change $17.50

____ The Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation $21.00

____ Changing Patterns in Regulation, Markets, and Technology: The Effect on Public Utility Pricing $20.00

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Temple University

Dr. Russell H. Conwell founded Temple in 1884, with only seven students. Now, over 100 years later, the University is one of the nation's senior comprehensive research institutions, with more than 31,000 students and with specialized programs all over the world.

Temple alumni/ae have helped shape the fields of government, business, industry, the performing and communications arts, science, research, law, medicine and technology.

Students earn bachelor's degrees in more than 95 different fields, master's degrees in 72, and doctorates in 52. The faculty numbers more than 2500.

Eleven schools and colleges offer associate and baccalaureate degree programs. The Graduate School awards master's and doctoral degrees in cooperation with 13 schools and colleges in the University. Professional degrees are available in dentistry, law, and medicine.

As a metropolitan university in an increasingly urban society, Temple's role is similar to that played by the land-grant institutions in an earlier, agricultural age. The University is committed to providing higher education to all who show academic promise. It believes in devoting its intellectual and material resources to the investigation and analysis of all aspects of urban and suburban life including such critical areas as education, employment, housing; health, transportation, crime, and the environment. But as a Commonwealth University, Temple serves not only Philadelphia, the city in which it resides, but also the eastern portion of Pennsylvania and in many cases the state as a whole. Eighty-eight percent of its students are Pennsylvania residents. At the same time the breadth and quality of Temple's academic programs attract hundreds of students from other states and many foreign countries.

The School of Communications & Theater

The School of Communications and Theater is one of the largest schools of its kind in the country. Its reputation is the equal of its size. Its departments, Journalism, Radio-Television-Film, Speech, and Theater, are nationally recognized for leadership in scholarship and professional training.

The faculty of the School is concerned not only with high standards of professional work, but also with encouraging the next generation of artists, teachers, clinicians, and media managers to develop an intellectual background and a sense of social responsibility.

The School is young, having been founded in 1965. It has grown rapidly and now has 2,600 majors.

Temple's location in Philadelphia, the country's fifth largest city, is particularly advantageous for someone seeking a career in communications. Since colonial times Philadelphia has been a center for publishing, legal and medical institutions. The city abounds in libraries, museums, professional organizations, theaters, and other cultural groups. Furthermore, in two hours one can be in Washington, D.C., or in New York City.

Within the School itself, the Blitman Reading Room in Annenberg Hall houses some 8,500 books and more than 170 periodicals in communications and theater. A full-time librarian maintains this facility.

Telecommunications

The Master of Arts program in Communication/Mass Media and Communication at Temple University offers a special emphasis in Telecommunications. This area of concentration is designed to prepare graduates for management positions in telecommunications industries. These organizations include telecommunications service providers and equipment manufacturers, and the end users of telecommunications services. The continuing growth of these information industries nationally and internationally in recent years has dramatically increased the demand for individuals who understand the uses and limitations of telecommunications. Industry, government and academia need individuals who are familiar with the interrelated social, economic, political and technological issues involved in the effective operation and management of such systems.

The continuing merger, over the past quarter century, of the telecommunications and the data processing industries extends the reach and the value of the telecommunications degree to the management of essentially any organization, public or private, that is involved in providing or using electronic transmission of voice, data or image information. Individuals from this program are being prepared for productive employment not only in the broadcasting and telephone industries, but also in banks and other financial services companies, retail organizations, government agencies, manufacturing companies, advertising and public relations firms.

Temple University has for many years enjoyed the reputation of having one of the largest and one of the best communications programs in the country. Temple's School of Communications and Theater is known throughout the world, and its graduates currently hold many important positions within the various sub-fields of communications.

M.A. in Communication: Mass Media-Telecommunications

Program Description

This degree program is derivative of the basic Master of Arts in Communication. Because this track can be viewed as a terminal degree, and because of the wide variation in the backgrounds of entering candidates, the credit requirements for this degree are greater than those for the basic M.A. degree.

Candidates for the program are expected to have earned a bachelor's degree or its equivalent from an accredited institution of higher learning and to meet all other general requirements for admission to the Graduate School. Qualified applicants will be admitted from a variety of disciplines: engineering, management, economics, the sciences, humanities, etc. The study program of each individual will be designed with the objective of developing a telecommunications manager well-grounded in his or her understanding of the uses of telecommunications, telecommunications services and technologies, the management of telecommunications systems and processes, and the social, economic, political and technological issues currently shaping the telecommunications industry, in the U.S. and around the world.

The program of study consists of a minimum of 45 semester hours, typically completed within two academic years, and spread among four study units as follows:

	Sem. hrs.
Core courses:	19
Elective courses:	10
Thesis/Project:	4-8
Telecomm. Seminar:	12
Total:	45 (minimum)

Core courses

The core course requirement is the same core required of all M.A. students. In addition, M.A. candidates must take at least one course from the Mass Media & Communication list below, and one from the Rhetoric & Communication list.

(1) *Comm/R&C 400*:
Communication Theory

(2) *Comm/R&C 500*:
Communication Research Methods

(3) *Comm/R&C 420*:
Critical & Interpretive Methods

Mass Media & Communication:
(1) *Comm 510*: Comm. Aesthetics
(2) *Comm 520*: Comm. Institutions
(3) *Comm 540*: Comm. Content & Behavior

Rhetoric & Communication:
(1) *R&C 460*: Rhetorical Theory
(2) *R&C 480*: Persuasion
(3) *R&C 484*: Organizational Comm.
(4) *R&C 566*: Sem.: Interpersonal Communication

Typically, a student will take one core course during each of the first three semesters he or she is enrolled in the program.

Elective courses

Elective course selections shall be based on a student's prior education and training, and will be chosen to assure that each graduate has the management skills and broad-based understanding of telecommunications discussed above. It is anticipated that elective courses will frequently involve other schools and departments such as the School of Business and Management, the Department of Computer and Information Sciences, Accounting, or Engineering. A more detailed document discussing these options is available on request from the Dean's Office. Possible elective courses, in typical study programs for various student backgrounds, are illustrated in that booklet.

Thesis/Project

A thesis or project representing 4-8 semester hours is required for graduation. Thesis topics might deal with technological matters (network architecture design, systems engineering issues, etc.), economics (e.g., relative costs to the public of various regulatory alternatives), social issues (e.g., providing telecommunications services for the handicapped) or government policy issues (e.g., the U.S. government's role in setting technical standards). Projects might include the design of an intra-company telecommunications network or an assessment of the cost savings of a newly-installed system, etc. Each thesis/project will be under the supervision and guidance of a SCAT faculty member.

Telecommunications Seminar

A principal component of this study program is a weekly (4 s.h.) seminar that all students are required to take during both years of the program. The seminar will provide the cohesive, integrating force for the program by exposing students to cross- disciplinary considerations in the management of telecommunications and by involving students in the discussion of current telecommunications issues. The seminars will include invited outside speakers from government, industry and academe.

Comprehensive Examination

Each student will take a comprehensive examination designed by and with his or her guidance committee. At least half of the exam will focus on telecommunications content.

Faculty

The 78 member faculty of the School of Communications and Theater is rich with expertise in telecommunications areas as well as tangential areas of study and application. This expertise ranges from traditional areas of telecommunication study including regulation, policy, legal constraints, and technical/engineering factors, to social impact issues, management approaches, organizational communication considerations, and media effects. As well, the resources of other schools and departments at Temple are used to complement the internal faculty. These include the areas of computer science, engineering, the Law School, economics, business administration, sociology, and psychology to name but a few.

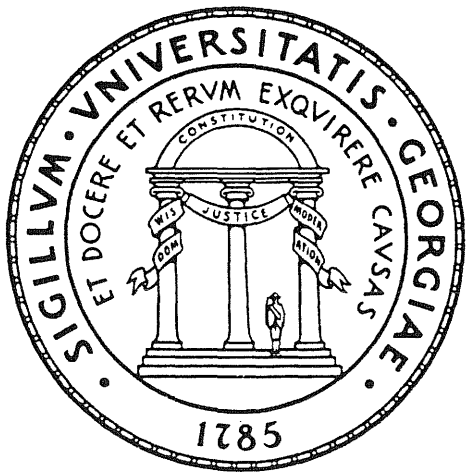
The nucleus of the telecommunications faculty within the School of Communications and Theater includes the following:

Dr. James C. Armstrong, Bell of Pennsylvania Chair in Telecommunications, has twenty years experience in the analysis of national and international communications issues dealing with public policy, national and corporate strategy, economics and technology. Assistant Professor Nolan Bowie is a lawyer with extensive experience in the study of social/political aspects of government regulation. Professor Herbert Dordick, Chairman of the Radio, Television and Film Department, is known for his work in telecommunications policy research, and is an expert on a wide range of specific domestic telecommunications problems in a variety of international settings. Dr. Norman Felsenthal has specialized in cable industry policy and practice. Dr. Gordon Gray is a specialist in broadcast management with national and international experience. Dr. Stewart Hoover has carried out research both domestically and in the developing world focussing on the social and cultural implications of the "new technologies", and is a consultant to a number of international policy and development organizations. Dr. Robert Smith is a recognized expert in telecommunications technology and policy, cognitive science and computer technology.

For further information, write or call:

Associate Dean for Graduate Programs
Temple University
School of Communications and Theater
321 Annenberg Hall (011-00)
Philadelphia, PA 19122
(215) 787-8791

THE SOUTHEASTERN REGIONAL PUBLIC UTILITIES CONFERENCE



Sponsored By
College of Business Administration
The University of Georgia

PLACE AND TIME

The Conference is held annually in September beginning on the second or third Tuesday and extending through Friday (i.e., generally between the 10th and 15th of September).

ORIGIN

The Southeastern Regional Public Utilities Conference was established in 1981 to provide a forum for the discussion of regulatory issues related to the electric, natural gas, and telecommunication industries.

Dr. Albert L. Danielsen, Professor of Economics at The University of Georgia, is a co-founder and the Conference Director.

Dr. David R. Kamerschen, Distinguished Professor of Economics and holder of the Jasper N. Dorsey Chair of Public Utilities Economics at The University of Georgia, is also a co-founder of the Conference and continues to be a major contributor to its success.

SCOPE

The orientation of the Conference has changed somewhat over the years. The greater degree of competition in each regulated industry has led to the expansion of the program to three full days to provide a format for the presentation of unabraded, or at least balanced positions, on issues of rate base, rate of return and the reregulation of the industries.

REGIONAL ORIENTATION

The regional orientation of the Conference is based on the idea that the states within the region face a common set of problems and that participants in the regulatory arena can benefit from an exchange of ideas across state boundaries. Sound policy cannot be made in a vacuum and without consideration of a wide variety of alternatives. The Conference provides one avenue through which information may be exchanged in a non-adversarial atmosphere.

PARTICIPANTS

The Conference initially attracted primarily state level public service commissioners, staff, intervenors, company personnel from the industries they regulate, and academicians. More recently, the target audience has been expanded to include legislators, legislative staff and federal executive and legislative personnel. This is due to the changing competitive environment whereby the people making critical decisions about issues of market structure in regulated industries are in the legislative, executive, and judicial branches of government.

HONOREE PROGRAM

Each year the Conference is dedicated to an individual who has made major career contributions to the field of public utilities. Honorees may have distinguished themselves as an executive involved in the management of a company, by service on a regulatory body, through research and publishing, and in other ways. We welcome nominations for the annual "honoree" award.

BLOCK AND INSTITUTIONAL REGISTRATION*

Our block and institutional registrant programs are designed to benefit all participants by providing a broader and more stable base of attendance at a lower average cost per attendee. A large attendance is desirable for the same reasons that universal telephone service is desirable. A large attendance helps us plan and organize a better conference, because we are able to recruit more prominent speakers. Moreover, the conferees have a wide range of people with whom to interact.

The block registration program is designed for the larger organizations who are involved in the regulatory process. The block registration fee entitles one person from the block registrant organization to attend the Conference. However, it also lays the groundwork for additional professional people from the block registrant organization to attend at our marginal cost.

The institutional registration program is designed for individuals employed by small and medium-sized organizations that are members of associations or other groups who represent their interests. The program provides professional people from the institutional registrant organization with a substantial discount from the full individual registration fee.

*Individual registration is also available.

Albert L. Danielsen

David R. Kamerschen

Professors Danielsen and Kamerschen (along with James C. Bonbright) are co-authors of *Principles of Public Utility Rates* [Second Edition] (Arlington, VA: Public Utilities Reports, Inc., 1988) - a revision of the "timeless classic" by James C. Bonbright (1961).

INQUIRIES

For further information concerning the Conference, contact Dr. Albert L. Danielsen, Conference Director, Brooks Hall, Room 110, College of Business Administration, The University of Georgia, Athens, GA, 30602, (404) 542-3807.

For inquiries about Conference registration, contact the Conference Administrative Secretary, Office of Public Service, College of Business Administration, The University of Georgia, Athens, GA 30602, (404) 542-3684.

HONOREES

James C. Bonbright (Academician)	(1981)	John McIntosh (Executive)	(1985)
Jasper N. Dorsey (Executive)	(1982)	Junie L. Bradshaw (Regulator)	(1986)
Ben Wiggins (Regulator)	(1983)	Ben S. Gilmer (Executive)	(1987)
Alvin Vogtle (Executive)	(1984)	William S. Vickrey (Academician)	(1988)

ANNUAL REPORT
MAY 1989

COLUMBIA UNIVERSITY

CENTER FOR TELECOMMUNICATIONS AND INFORMATION STUDIES

GRADUATE SCHOOL OF BUSINESS
809 URIS HALL
NEW YORK, NY 10027
(212) 280-4222

THE CENTER AND COLUMBIA UNIVERSITY

The Center for Telecommunications and Information Studies was established in 1983 at Columbia University's Graduate School of Business to encourage independent research on economics and policy issues in the communications and information fields. The Center was the first research-oriented communications institution at a U.S. business school. Drawing strength from its location in New York City, the national communications capital, the Center provides a unique setting and mix of human resources for studying telecommunications and information economics, business activities, new technologies, broadcasting and mass media, public policy and regulation. It provides a national meeting ground for academic researchers, government policy makers, and private and non-profit sector experts. The vehicles for disseminating his research and maintaining links with other institutions are conferences, workshops, and seminars, publications in the form of books and working papers, as well as speaking engagements at other institutions in the U.S. and abroad.

The Center's development is part of a general flourishing of telecommunications and related studies at Columbia. The University hosts three established programs in the communications field: (1) The Center for Telecommunications Research in the School of Engineering; (2) The Gannett Center for Media Studies, an independent center housed in the Journalism building; and (3) The Center for Telecommunications and Information Studies at the Business School.

HIGHLIGHTS OF THE LAST YEAR

In the fifth year of its existence, much of the Center's activity has been concerned with topics which identify the increasing interaction between telecommunications issues and mass communications. The Integrated Broadband Networks project has continued to explore the public policy issues raised by a common, distribution infrastructure for television and telephony. New network configurations create an arena in which telephone companies, the cable television industry, broadcasters, film producers and enhanced service providers all have vital interests. A second theme dealt with electromagnetic spectrum as a transmission medium for both telecommunications and mass media. As the growth of new services increases the pressure on its capacity, conflicts between the competing demands of different uses give rise to difficult regulatory problems. A conference on the allocation of electromagnetic spectrum was held in the Fall 1988. As their importance to industry, government and users grows, the Center will continue its policy and economics research on issues cutting across the electronic media and telecommunications field.

During the year, the Center held conferences in Tokyo and in Washington, D.C. "Telecommunications in the Pacific Basin" brought together researchers from 13 nations in this rapidly growing region. "Divestiture Five Years Later" presented empirical economic evidence on the impact of the AT&T breakup. Books derived from these conferences, as well as the Integrated Broadband Network and spectrum conferences are in preparation. In addition, an extensive two volume study on European telecommunications and television is at the publisher.

The Center welcomed Stanley Besen as an Affiliated Research Fellow during his appointment as Henley Visiting Professor of Business and Law at Columbia University for the 1988-89 academic year. Bruce Egan joined the Center as a Special Consultant and Affiliated Research Fellow.

ADVISORY BOARD

SUPPORTING ORGANIZATIONS

The Center's operation is funded by its affiliates, a group of American and foreign foundations and private firms. This broad-based support assures and demonstrates the Center's independence as an academic institution. Following New York Telephone Company's lead as the Center's charter sponsor, these foundations and organizations have been contributors:

AT&T Foundation
Bell Atlantic
CompuServe*
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Coopers & Lybrand
CTL-City*
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E.F. Hutton
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Southern New England Telephone
Telenet*
Television Digest*
Times Mirror
Washington Post
United Telcom/US Sprint
UNISYS*

* In-kind Support

POLICY RELATING TO ACADEMIC INTEGRITY AND CONFLICT OF INTEREST

To assure the academic integrity of the Center, and in accordance with University principles relating to the conduct of research under its sponsorship, the Center's activities are determined by the Faculty of Columbia Business School with the advice of an Advisory Board drawn from persons in government, industry, universities, and other constituencies. The acceptance of contributions in no way entitles the contributors to any influence over the subjects, choice of researchers, or conclusions of such research.

PRINCIPALS OF THE CENTER

The Center continues to be under the leadership of Martin C.J. Elton, as Director, and Barry Cole, as Visiting Director. Eli Noam, founder and former Director of the Center, who was appointed by Governor Mario Cuomo to the New York State Public Service Commission in June of 1987, was on leave from Columbia. The administration of the Center is supervised by Douglas Conn, Associate Director, and Richard Kramer is Assistant Director.

Martin C.J. Elton - Director

Martin C.J. Elton is Director of the Center and a Visiting Professor at Columbia Business School. He is on leave of absence from New York University where he has been professor of communications at the Tisch School of the Arts since 1979. Previously he held appointments at the Wharton School, London University, the Organisation for Economic Cooperation and Development (Paris) and the Tavistock Institute for Human Relations (London). His research has focused primarily on evaluation, planning and policy development for emerging telecommunications and information services. He serves on the editorial board of Telecommunications Policy and was a member of the National Research Council's recent Subcommittee on Space Communications Research and Development. He has acted as principal investigator of studies sponsored by the National Science Foundation, AT&T, the Corporation for Public Broadcasting and many other agencies and corporations in the USA, Canada, and Europe. He has published widely in the field; his books include the edited volumes Evaluating and Planning New Telecommunications Services and The Teleconferencing Handbook. Born in England, he received a M.A. degree from Cambridge University in mathematics and a Ph.D. degree in operations research from Lancaster University.

Barry G. Cole - Visiting Director

Barry G. Cole is Visiting Director of the Center. A member of the faculty of the Annenberg School of Communications at the University of Pennsylvania since 1978, he has written extensively about communications policy and regulation. Professor Cole has taught at Northwestern, the University of Texas, Indiana University and the University of Pennsylvania School of Law. He has been the co-recipient of two national book-of-the-year awards: one for Reluctant Regulators: The FCC and the Broadcast Audience; the other for Federal Funding of Children's Television Programming, and his edited volumes, Television and Television Today have been widely used in communications courses. He has served as founding Deputy Director and later as Scholar-in-Residence of the Washington Program of the Annenberg School, as well as a consultant to two FCC Chairmen, Dean Burch and Richard Wiley; the House Subcommittee on Telecommunications; the National Science Foundation, and other federal agencies. He has chaired the Annual Telecommunications Policy Research (Airlie House) Conference, and continues as a Consulting and Contributing Editor of the Journal of Communications. A graduate of the Wharton School, he received an M.A. and a Ph.D. in Mass Communications from Northwestern University.

Eli M. Noam – (on leave)

Eli Noam continued serving in 1988 as Commissioner on the New York State Public Service Commission. He is on leave as Professor at the Columbia Business School, where he has taught since 1976. He has also taught at the Columbia Law School and has been a Visiting Professor at the Economics Department of Princeton University's Woodrow Wilson School. He has published extensively in economic journals, law reviews and interdisciplinary journals on issues of telecommunications and regulation. His books include the edited or co-authored volumes Telecommunications: Today and Tomorrow; Video Media Competition; Services in Transition: The Impact of Information Technology in the Service Industry; and Law of International Telecommunications in the United States; forthcoming is a two-volume study, Telephony in Europe and Television in Europe, as well as the edited volumes The International Market in Film and Television Programs; Asymmetric Deregulation: The Dynamics of Telecommunications Policies in Europe and the United States; and Telecommunications in the Pacific Basin. He served on the editorial boards of the Columbia University Press and several journals, including Telecommunications Policy; Telephone Law and Business; Telematics; and Law and Society Review. He is also the general editor of the Columbia University Press book series, "Studies in Business, Government, and Society," and was a member of the advisory board for the Federal Government's FTS-2000 telecommunications network, the largest U.S. civilian procurement contract. He received an A.B. from Harvard College in 1970, and a Ph.D. in Economics and a J.D. in Law from the same university in 1975.

Douglas A. Conn – Associate Director

Douglas A. Conn joined the program in January 1987 as Assistant Director, with research and managerial experience in various aspects of the communications and telecommunications industries. His primary responsibilities at the Center encompass all external affairs including seminars, conference planning and development. In addition, he continues to conduct and initiate research on domestic and international topics in telecommunications and information networks. He has held positions as a computer systems analyst and has founded projects in the recording industry. Mr. Conn holds a B.S. from Northwestern University in Speech Communications and an M.A. from the Annenberg School of Communications at the University of Pennsylvania. He has attended both the Telecommunications Program at Syracuse University of London and the Washington Program of the Annenberg Schools of Communications.

Richard A. Kramer – Assistant Director

Richard Kramer joined the Center as a Research Assistant in May 1987 and in October of 1987 he assumed the position of Assistant Director. Prior to joining the Center, he worked for a videotex joint venture company and served as a consultant to a number of non-profit communications groups. He is currently responsible for managing the internal activities, staff and resources of the Center, supervising editorial work and implementing the logistics of Center events and research projects. He holds a B.A. degree from Columbia College, with a focus on communications issues and research, having completed all course requirements in the areas of History, Sociology and Philosophy.

Bruce L. Egan – Special Consultant and Affiliated Research Fellow

Bruce L. Egan first became involved with the Center in early 1988 through its Integrated Broadband Networks project. In October, 1988 he joined the Center as a Special Consultant and Affiliated Research Fellow. He is also an independent industry consultant specializing in planning and policy analysis of emerging industry issues including alternative forms of regulation (e.g. price-caps), costing, pricing and technology deployment strategies for digital communications networks. From 1983 to 1988 he was District Manager - Economic Analysis at Bellcore and before that he was an economist at Southwestern Bell. He has published recent articles on telecommunications costing, pricing and deregulation. Mr. Egan received his BA in Accounting and Economics and his MA in Economics from Southern Illinois University.

Abraham J. Mund – Computer Systems Consultant

Abraham Mund, who heads his own research and consulting firm, is coordinating the Center's research of electronic databases, computernetworks, and electronic mail.

Student Assistants

The Center is fortunate in attracting and employing students with a wide variety of skills and interests to act as research and office assistants. Christine Alloggiamento, Robert Baker, William Bodenlos, Laura Bulatao, Richard Chacon, William Cohn, Justin Doebele, Sheryl Emery, Daniel Goldstein, Remy Le Champion, Mark Loftstrom, Susan Miller, Arthur Newman, David Park, and Ferencz Partos have all served the Center as research assistants. In addition, Rachel Thompson joined the Center as a Research Associate for part of the year. Part-time administrative and editorial assistants have included Emilie Ast, Caroline Choe, Maya Crone, Rhonda Harrison, Leslie Horowitz, Eli Lee, Jooyon Lee, Junno Lee, Sabrina Sacks, Joyce Theobalds, and Mark Young. Among them are MBA and Ph.D. candidates, graduate students in English, Public Policy, and Interactive Telecommunications, and a variety of undergraduate majors. Many have been of invaluable assistance in editing and preparing the Center's publications.

RELATED TELECOMMUNICATIONS ACTIVITIES AT COLUMBIA

The Gannett Center for Media Studies, an operating program of the Gannett Foundation located at the Columbia Journalism School, is an institute for the advanced study of mass communication and related technological change. Through a variety of programs, it seeks to enhance media professionalism, foster greater public understanding of how the media work, strengthen journalism education and examine the effects on society of mass communication and information technology. Center programs under Executive Director Everette Dennis include residential fellowships, seminars, conferences and technological studies.

Columbia University's Center for Telecommunications Research (CTR) is one of six National Engineering Research Centers selected for major funding in May 1985 by the National Science Foundation. It is a multi-disciplinary center whose research program focuses on the integrated telecommunication networks of the future: systems which will support all forms of information exchange, including voice, video, data and graphics. Center Director Anthony Acompora heads projects which explore new systems concepts and develop the underlying technology necessary to implement these systems.

The presence of these three centers at Columbia attracts outstanding scholars, educators, and telecommunications professionals from the U.S. and abroad. Through their separate and informally cooperative activities, they are jointly establishing a presence at Columbia for teaching and research in telecommunications.

Visiting Fellows Program

One of the University's functions is to offer an environment in which people from diverse institutional and professional backgrounds can exchange ideas. For its part, the Center hosts researchers who wish to spend time in New York for purposes of research and writing. Candidates are chosen from academia, the private sector, and government, on the basis of project proposals, general research interests, and ability to produce work of publishable quality. Fellows must have support from their institutions; the Center provides supplies, limited work space, clerical support, access to facilities and participation in research activities.

Previous Visiting Fellows hosted by the Center, and their research topics, have been Steven Koltai, of the Council on Foreign Relations (international satellite policy), Thierry Vedel, from the Centre Nationale des Recherche Scientifique, France (new media development and regulation) and Jaakko Hannuksela, of the Sonoma Corporation, Finland (cable television in Europe and the US). In addition, Michael Latzer, a Research Fellow at the Institute for Socio-Economic and Technical Research (ISET) in Vienna, Austria, has been visiting the Center in 1988-89 on an Austrian Academy of Sciences Fellowship.

BOOKS AND PUBLICATIONS

Books in Print

Telecommunications Regulation Today and Tomorrow, Eli M. Noam, Ed. Harcourt Brace Jovanovich (Business and Law), 1984.

Video Media Competition: Regulation, Economics, and Technology, Eli M. Noam, Ed. Columbia University Press, 1985.

Technological Innovation, Regulation and the Monetary Economy, Colin Lawrence and Robert Shay, Eds. Ballinger, 1986.

Tracing New Orbits: Cooperation and Competition in Satellite Development, Donna Demac, Ed. Columbia University Press, 1986.

Services in Transition: The Impact of Information Technology on the Service Sector, Gerald Faulhaber, Eli M. Noam, and Roberta R. Tasley, Eds. Ballinger, 1986.

Advances in Industrial and Labor Relations, David Lewin, Donna Sockell, and David Lipsky, Eds. [Includes CTIS conference EmploymentProblems in an Information Age], JAI Press, Vol. IV, December, 1987.

The Economics of Libel, Everette Dennis and Eli M. Noam, Eds., Columbia University Press, 1989.

Cable Television Advertising, Rajeev Batra and Rashi Glazer, Eds., Greenwood Press, 1989.

Forthcoming Books

Beyond Ratings: New Directions for Audience Measurement Research, Donna Hoffman, Ed.

Telephony in Europe, Eli Noam.

Television in Europe, Eli Noam.

Asymmetric Deregulation: The Dynamics of Telecommunications Policy in Europe and the United States, Eli Noam and Gerard Pogerel, Eds., Ablex Publishers.

The International Market in Film and Video Product, Joel Millonzi and Eli Noam, Eds.

Prices, Costs and Capital Decisions in Telecommunications: Incentive Mechanisms for Economic Efficiency, Michael Einhorn, Ed.

Integrated Broadband Networks, Martin C.J. Elton, Ed.

The Nature and Consequences of Current Management of the U.S. Electromagnetic Spectrum, Dale Hatfield and Barry Cole, Eds.

Telecommunications in the Pacific Basin, Eli Noam and Seisuke Komatsuzaki, Eds.

Divestiture: Five Years Later, Barry Cole, Ed.

Working Paper Series

The Center's Working Paper Series serves to disseminate early versions of research prior to publication. It now includes about 350 papers. A number of these papers have recently been published, or are in the review process at various scholarly journals. The Center has also transcribed certain meetings, including the monthly seminars when appropriate. Copies of the papers can be ordered, except where publication in a journal or by a publisher is imminent. For a complete list of the Research Papers see Appendix B.

The Information Exchange

The telecommunications "network" established in New York and elsewhere is enhanced by the Center's semi-annual newsletter, The Information Exchange (TIE). Richard Kramer serves as editor of TIE, and welcomes contributions from outside the Center. Those interested in contributing short pieces of current interest or wishing to report upon research occurring beyond the Center should send materials for consideration to him. Recent additions to the Working Paper Series and upcoming Center events are also listed in TIE.

EDUCATION AND SERVICES

Teaching Activities

While the Center's main focus is research, it has also fostered an instructional role, which would benefit communications and information studies. This educational component has also helped attract to the Center high caliber student research assistants from a wide range of disciplines. Several faculty members affiliated with the Center teach communications or information related courses at Columbia. A future concentration in "Information Management" is under consideration.

Departmental Ph.D. dissertations are pursued in conjunction with the Center and its faculty. There is a student research paper series, featuring the independent study projects of MBA students working with the Center. In addition, the Center compiles a guide to telecommunications and information courses on the Columbia campus, and acts as an informal advisor and resource center to students interested in pursuing telecommunications related careers.

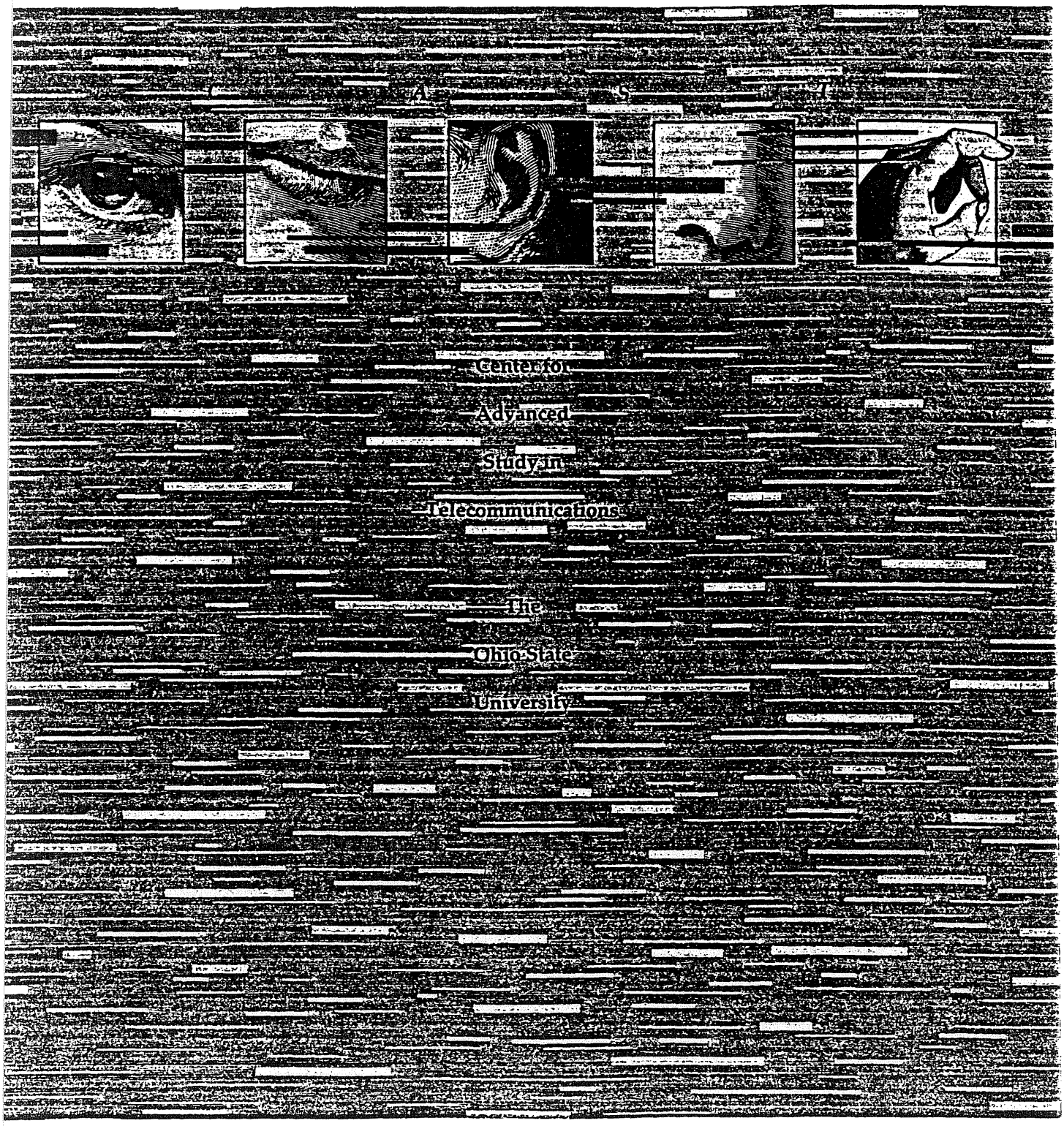
Student Associations and Groups

The student Communications Management Association was established by students who are interested in communications industries. The Association's activities include speaker events, counselling of students, publication of a student resume book, and informal discussions. Speakers have included representatives from ABC, NBC, AT&T, Time, Coca Cola Entertainment, Orion Pictures, Price Communications and Thames Television

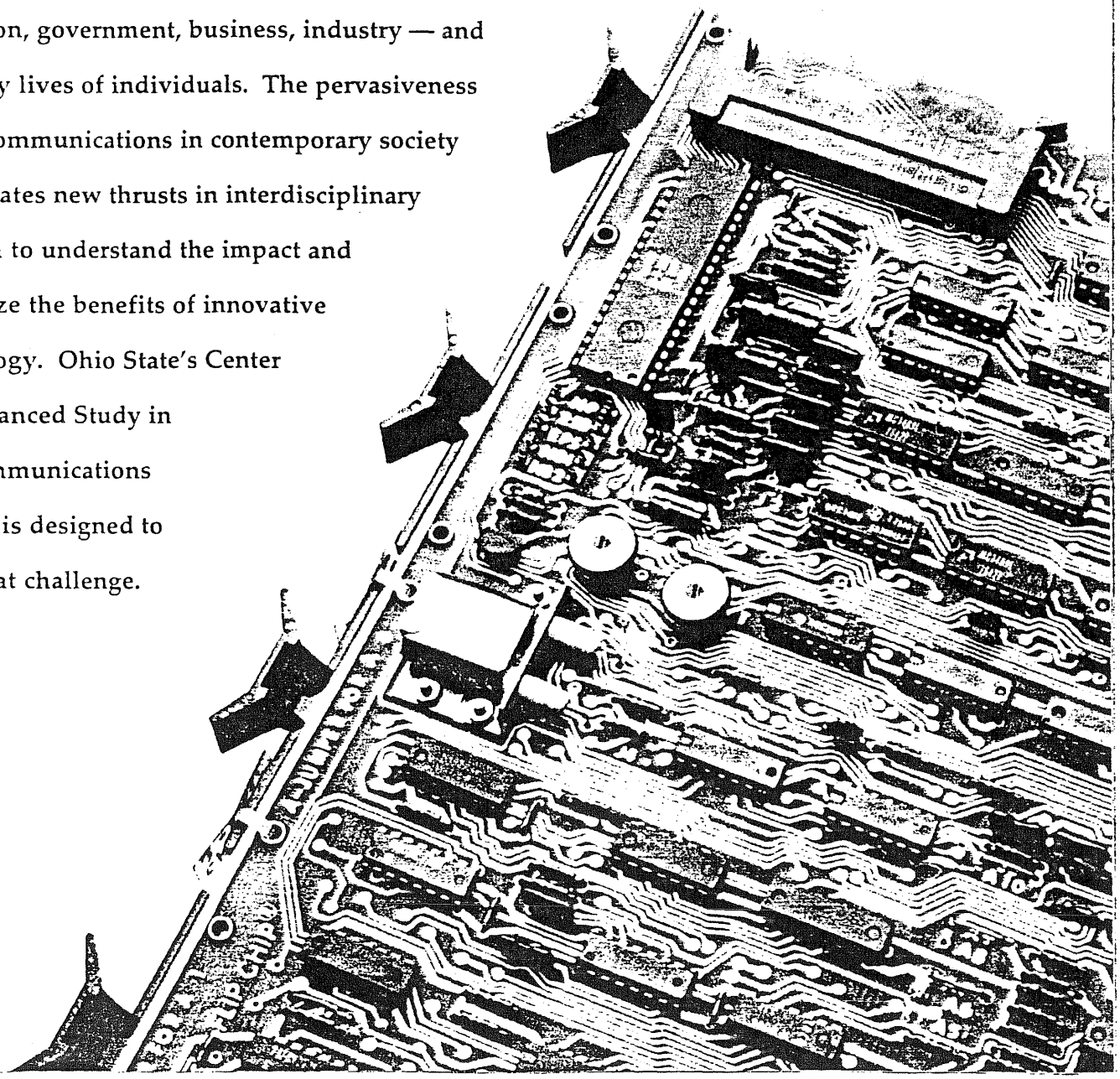
In 1987, students also organized the High Technology Group whose members are interested in technology intensive industries such as telecommunications, computers, and aerospace. The group's primary activities include sponsoring guest speakers, hosting informational events and establishing relations between itself, the university and the high-tech community.

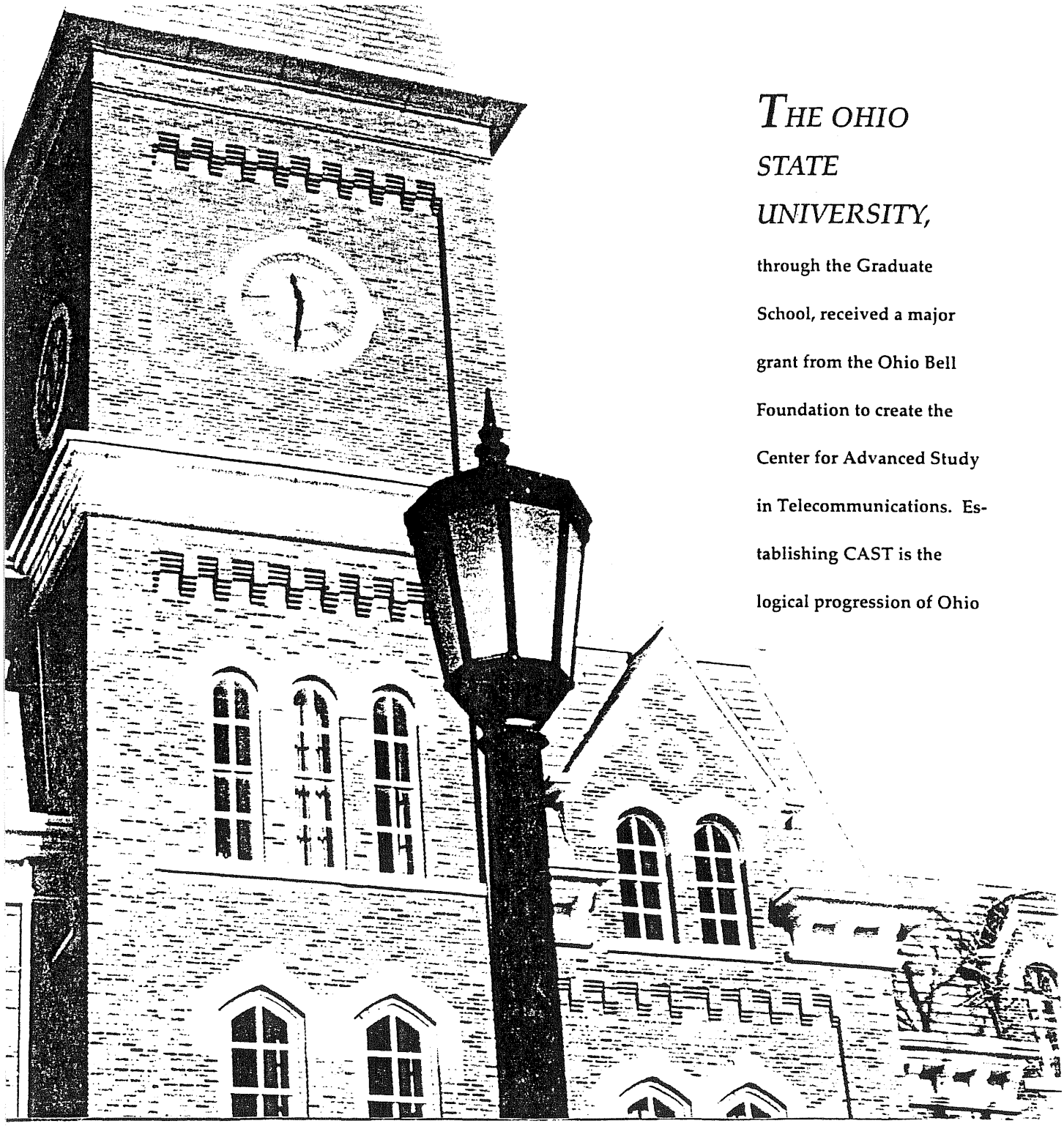
Library Resources and Databases

A growing library collection supports the Center's research activities. In addition to books, a large number of consulting studies, government reports, academic papers, and international materials are available to academic researchers and affiliated organizations. Research assistants review several dozen trade publications regularly and maintain a clippings file organized by subject. In addition, a data bank on more than 5,000 U.S. cable systems, funded by the National Science Foundation, permits the empirical study of cable television activities.


Center for
Advanced
Study in
Telecommunications
The
Ohio State
University

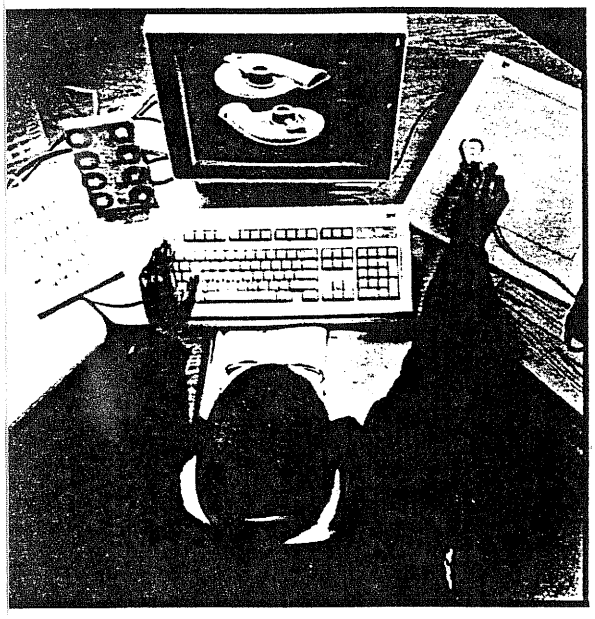
TELECOMMUNICATIONS technology
s changing faster than we can adapt, transforming
ducation, government, business, industry — and
he daily lives of individuals. The pervasiveness
f telecommunications in contemporary society
ecessitates new thrusts in interdisciplinary
esearch to understand the impact and
naximize the benefits of innovative
echnology. Ohio State's Center
or Advanced Study in
Telecommunications
CAST) is designed to
neet that challenge.



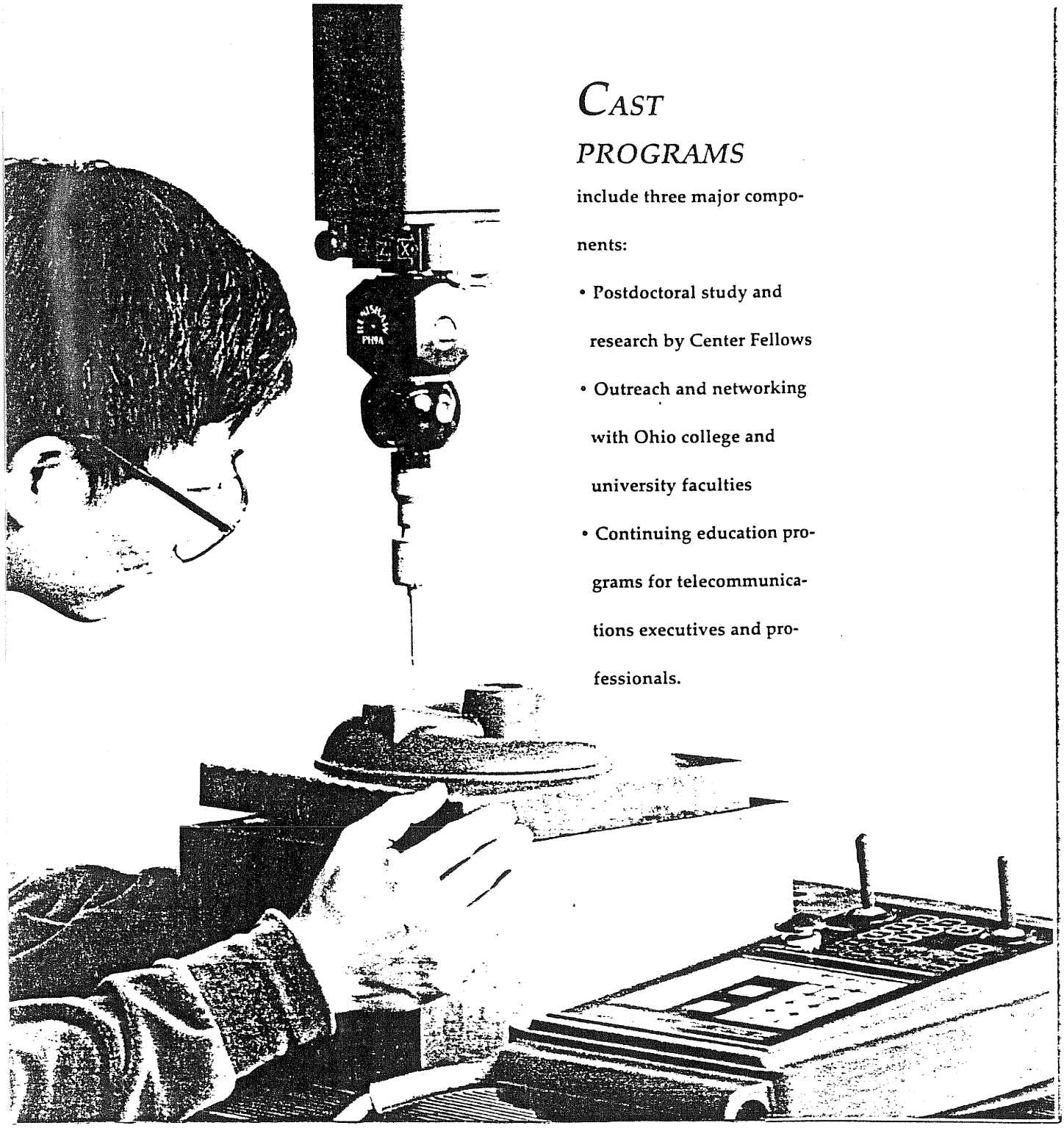


THE OHIO STATE UNIVERSITY, through the Graduate School, received a major grant from the Ohio Bell Foundation to create the Center for Advanced Study in Telecommunications. Establishing CAST is the logical progression of Ohio

tate's rich tradition of tele-
ommunications research and
ducation. The Center has at
ts disposal vast telecommu-
ications resources, including
distinguished research fac-
ilty; one of the nation's
eading libraries; an internal
elephone system and fiber-
ptics network; satellite
iplink/downlink capability
and AM/FM/TV broadcasting
stations; diversified comput-
ing, supercomputing and
computer graphics facilities,
as well as the pioneering tele-
communications industries of
central Ohio. In addition,
Ohio State's commitment to
international scholarship
ensures that the Center's
purview is the world.



INTER DISCIPLINARY RESEARCH will be fostered and encouraged, as CAST brings together scholars from the many fields incorporating telecommunications: engineering, the social sciences, business, and the humanities. Telecommunications research foci include the design and impact of technology and policy and ethical issues that derive from the processes of invention, diffusion, and utilization. Telecommunications is defined broadly to encompass all information and communication technologies; both point-to-point and mass communication are seen as integral. Special attention will be afforded the role of telecommunications in enhancing higher education, increasing the competitiveness of the nation's production and service systems, enriching Ohio's economy, promoting international understanding, and facilitating the convergence of communication and computers. Both traditional and innovative telecommunications technologies will be utilized as CAST interacts with its state, national, and international constituents.



CAST PROGRAMS

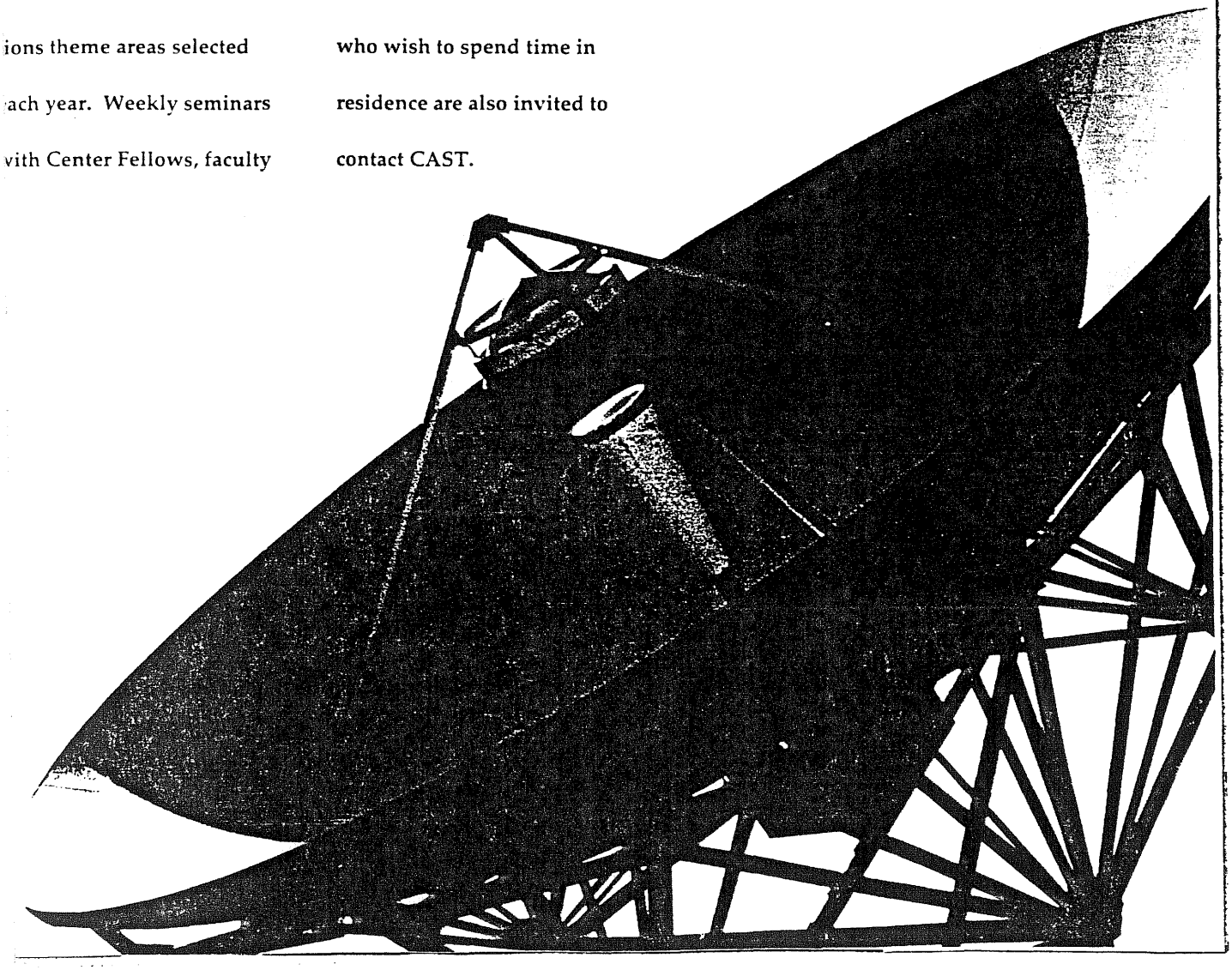
include three major components:

- Postdoctoral study and research by Center Fellows
- Outreach and networking with Ohio college and university faculties
- Continuing education programs for telecommunications executives and professionals.

POSTDOCTORAL STUDY AND RESEARCH will be supported by CAST. Promising scholars are encouraged to apply for Center Fellowships which include a highly competitive stipend.

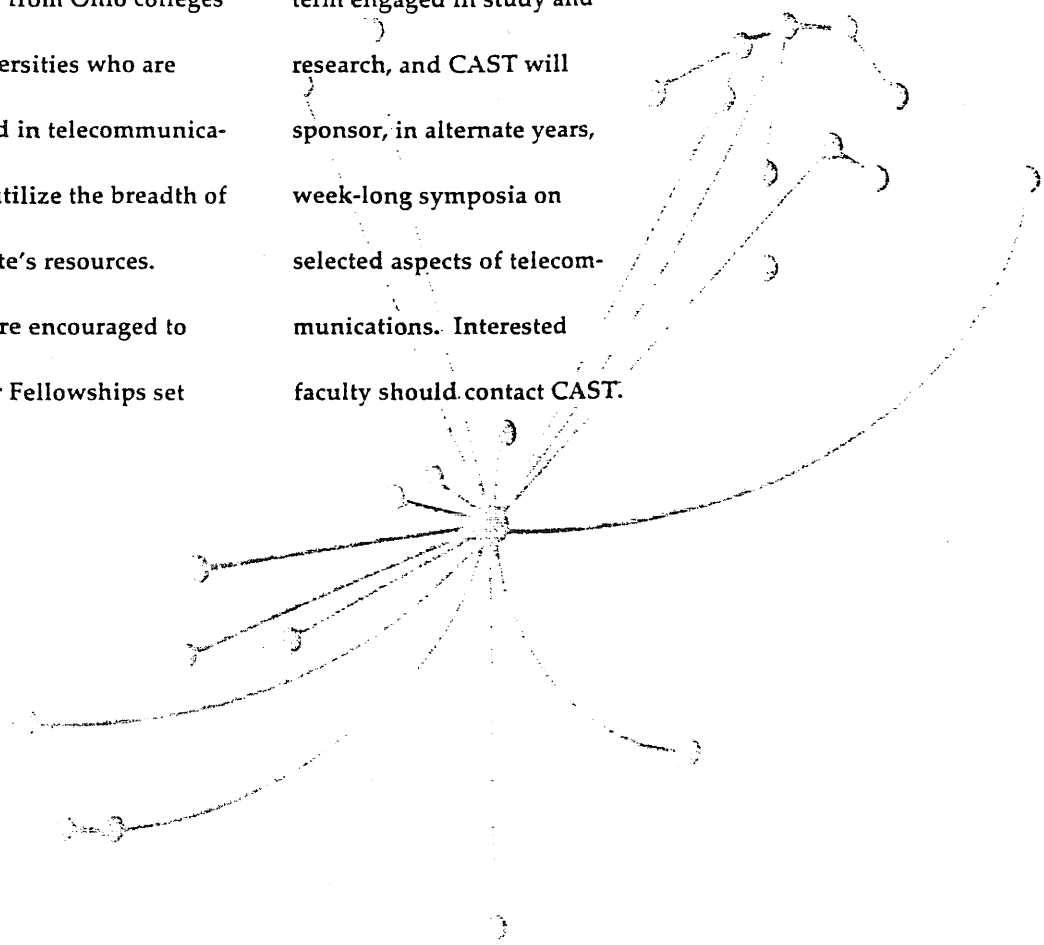
CAST's programs include publication of the highly acclaimed *Communication Booknotes*, an annotated bibliography of telecommunication titles, edited by Christopher H. Sterling.

?ostdoctoral and visiting ?ellows will work in col- aboration with Ohio State 'aculty on research projects vithin the telecommunica- ions theme areas selected ach year. Weekly seminars vith Center Fellows, faculty and graduate students will be coordinated by CAST to vitalize cross-disciplinary interaction. Eminent scholars in telecommunications who wish to spend time in residence are also invited to contact CAST.



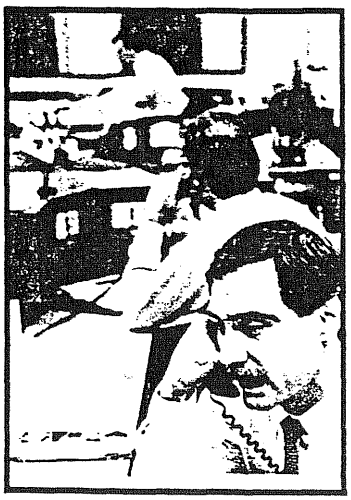
OUTREACH AND NETWORKING

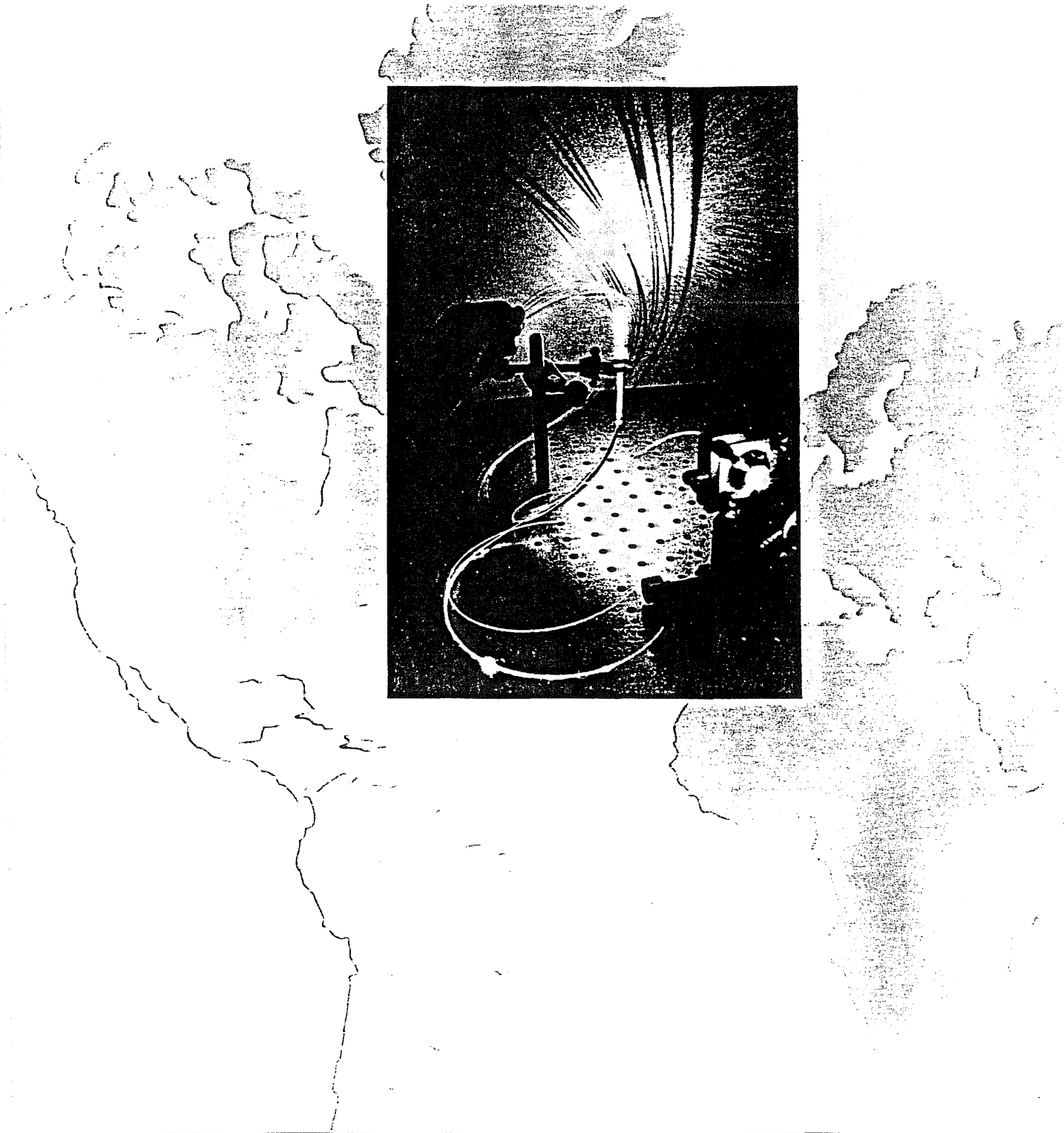
programs sponsored by CAST will allow faculty members from Ohio colleges and universities who are interested in telecommunications to utilize the breadth of Ohio State's resources. Faculty are encouraged to apply for Fellowships set aside annually for a sabbatical year at Ohio State. Other faculty members from throughout Ohio will spend the three-month summer term engaged in study and research, and CAST will sponsor, in alternate years, week-long symposia on selected aspects of telecommunications. Interested faculty should contact CAST.



Continuing Education

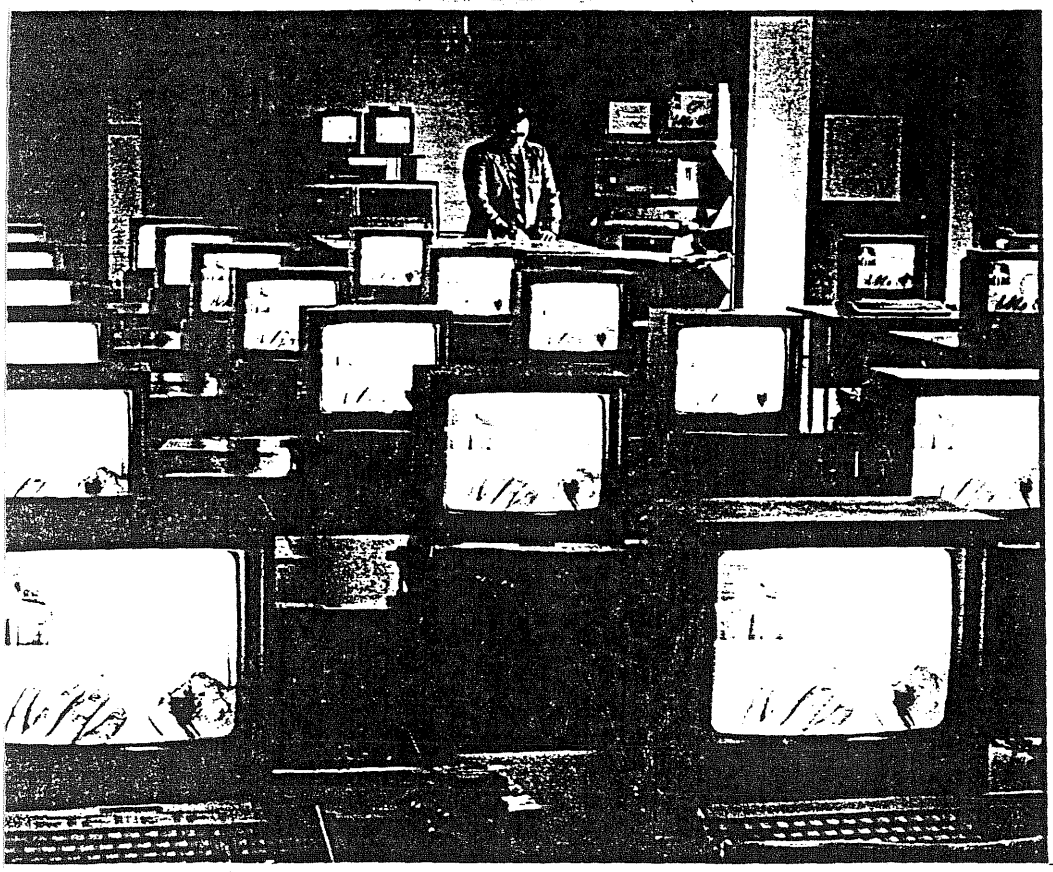
programs offered by CAST for executives and professionals will update and broaden their knowledge base in telecommunications. In addition, symposia and seminars will explore current continuing education curricula with an eye toward devising innovative programs for the industry. CAST welcomes applications and suggestions from telecommunications executives and professionals.

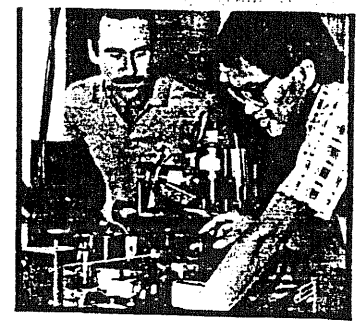




DISTINCTIVE FOR ITS FOCUS

upon both the design and impact of telecommunications technology, CAST is committed to addressing today's research, process and policy challenges. Accordingly, the findings of the various research projects and symposia will be disseminated widely.





For more information

about Ohio State's Center for Advanced Study in Telecommunications, contact Thomas A. McCain or Jane M. Fraser at:

C A S T

210 Baker Systems Engineering Building

The Ohio State University

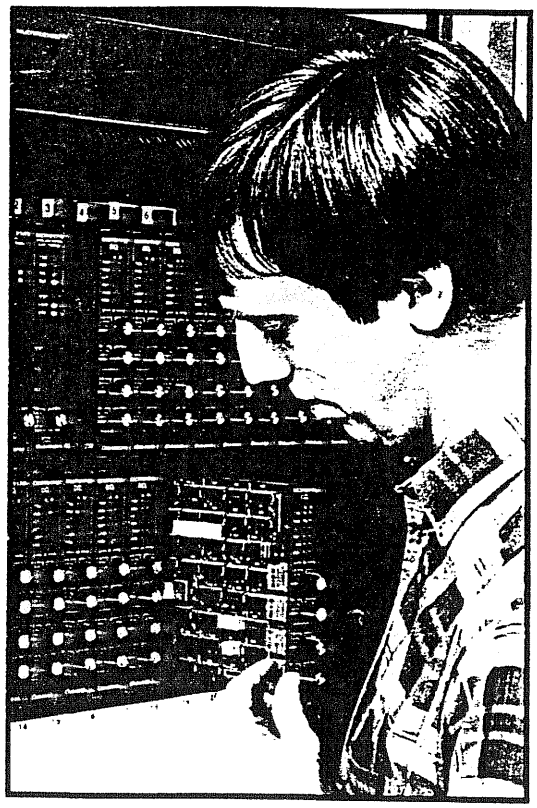
Columbus, OH 43210

Phone: (614) 292-8444

FAX: (614) 292-2055

Electronic mail :

cast@eng.ohio-state.edu



Who We Are – What We Do –
How We Do It – Why – And For Whom

The Program on Information Resources Policy

Harvard University

Center for Information Policy Research

Conflict and change: the need for information about information resources.

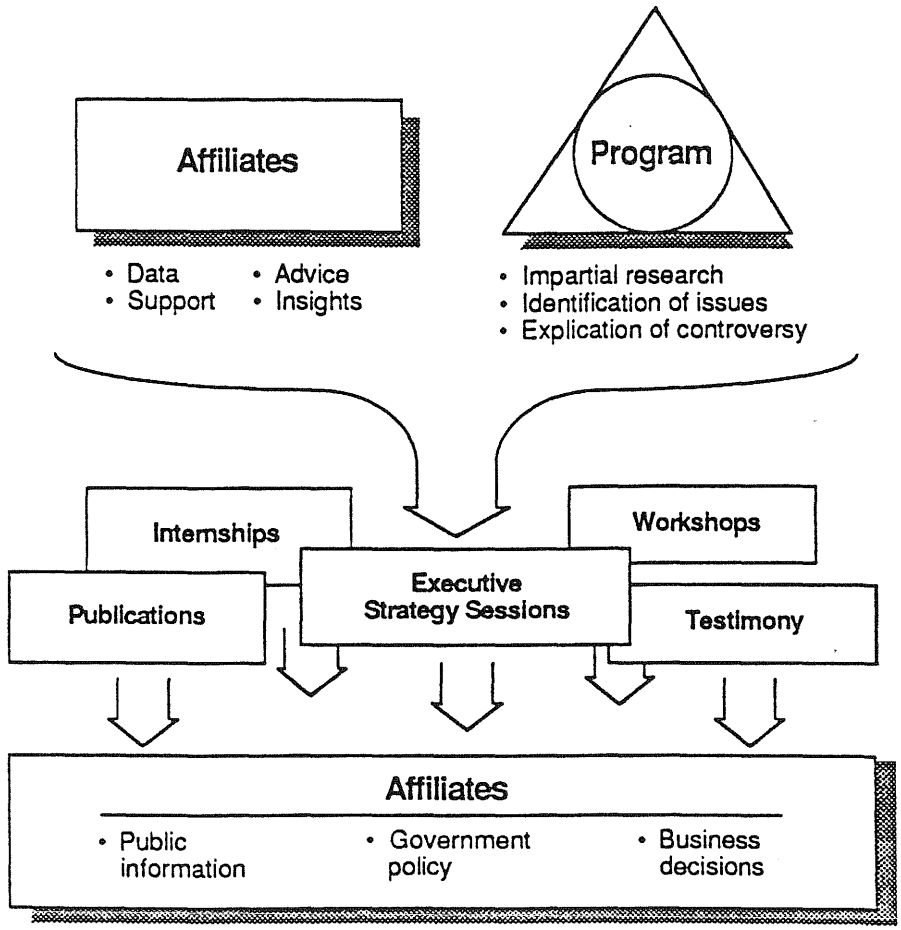
Our purpose is to help policymakers, the general public, and our affiliates address problems brought on by changes in communications and information resources. Since 1972, we have worked with stakeholders to clarify what is at stake and for whom.

To be useful in private and public spheres, our work must be both competent and impartial. Toward this end, we have invented a unique process:

- We deal mainly with controversial matters of continuing relevance.
- We work on emerging issues in the middle time range. This focus is close enough for the issues to be of concern to real stakeholders, remote enough for the outcomes not to be foreclosed.
- We lay out the essentials of controversies, but we don't take sides, make recommendations, or attempt to predict the future.
- We operate with diversified financial support from stakeholders in the controversies we work on.
- We insist on having our work reviewed by these stakeholders and by the relevant professions and disciplines.
- All of our work is available to the public. Everyone knows in advance that this will be so.
- We do neither proprietary nor classified work and give no partisan expert testimony. We do not work toward external deadlines or respond to requests for proposals (RFPs).
- Our principals accept no personal consulting fees.
- We aspire to intellectual, financial, and institutional stability that will persist through the ins and outs of fashions and incumbencies.

This niche is not filled by White House, congressional, agency, or corporate staffs, by conventional academic "policy analysis" or basic research, or by conventional consultants or "think tanks."

The Program's way of working includes long-term relationships from which all derive value, whether in the distillation of strategy or the creation of a written record for use when and where it is needed.



Our affiliates hold competing positions, keeping us impartial.

Action for Children's Television
American Telephone & Telegraph Co.
Ameritech Publishing
Anderson, Benjamin, Read & Haney, Inc.
Apple Computer, Inc.
Arthur D. Little, Inc.
Auerbach Publishers Inc.
Automated Marketing Systems
Bell Atlantic
BellSouth Corporation
Booz-Allen & Hamilton, Inc.
Bull, S.A. (France)
CMC Limited (India)
Commission of the European Communities
Communications Workers of America
Computer & Communications Industry Assoc.
Continental Graphics Corp.
Copley Newspapers
Cowles Media Co.
Data Communications Corp. of Korea
Department of Communication (Australia)
Dialog Information Services, Inc.
Direction Generale des Telecommunications (France)
Dow Jones & Co., Inc.
EIC/Intelligence Inc.
Equifax Research
Gannett Co., Inc.
Gartner Group, Inc.
GTE Corporation
Hitachi Research Institute (Japan)
Honeywell, Inc.
IBM Corp.
Information Gatekeepers, Inc.
Information Industry Association
Interconsult
International Data Corp.
International Resource Development, Inc.
Invoco AB Gunnar Bergvall (Sweden)
Knowledge Industry Publications, Inc.
Lee Enterprises, Inc.
John and Mary R. Markle Foundation
Martin Marietta Corp.
MCI Telecommunications, Inc.
McKinsey & Co., Inc.
Mead Data Central
MITRE Corp.
National Telephone Cooperative Assoc.
The New York Times Co.
NEC Corp. (Japan)
Nippon Telegraph & Telephone Corp. (Japan)
Northern Telecom Ltd. (Canada)
Nova Systems Inc.
NYNEX
The Overseas Telecommunications Commission (Australia)
Pacific Telesis Group
Pitney Bowes, Inc.
Public Agenda Foundation
Research Institute of Telecommunications and Economics (Japan)
RESEAU (Italy)
Saint Phalle International Group
Salomon Brothers
Scaife Family Charitable Trusts
SEAT S.P.A. (Italy)
Southam, Inc. (Canada)
Southern New England Telecommunications Corp.
State of California Public Utilities Commission
State of Minnesota Funding
TEKNIBANK S.p.A. (Italy)
Telecommunications Research Action Center (TRAC)
Third Class Mail Association
Times Mirror Co.
TRW Inc.
United States Government:
- Department of Commerce
  - National Telecommunications and Information Administration
- Department of Defense
  - National Defense University
- Department of Health and Human Services
  - National Library of Medicine
- Department of State
  - Office of Communications
- Federal Communications Commission
- General Services Administration
- National Aeronautics and Space Administration
- National Security Agency
- U.S. General Accounting Office
- United States Postal Rate Commission

United Telecommunications, Inc.
US West
The Washington Post Co.

No single source is large enough to kill us by withdrawing, but aggregate pressures of annual renewal keep us focused on matters relevant to our broad constituency. Our principals accept no personal consulting fees.

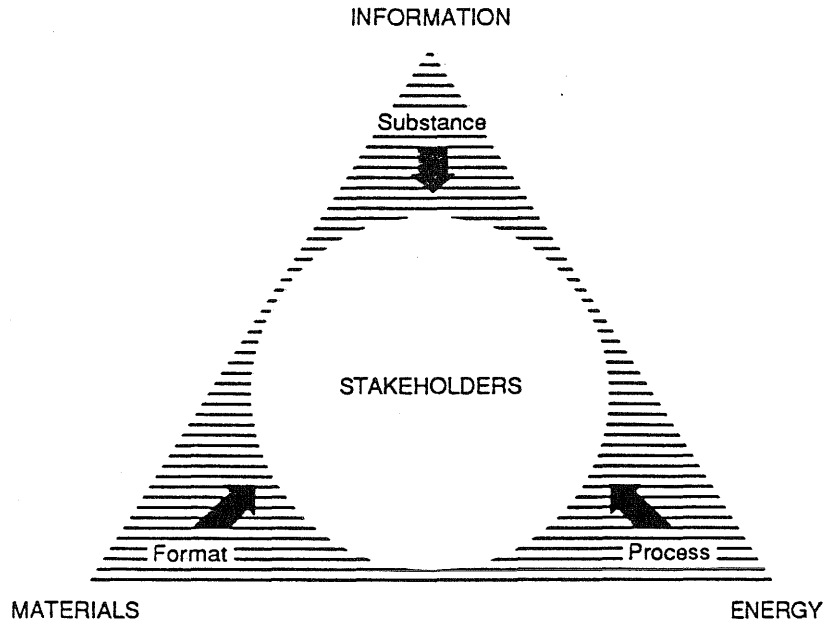
Our affiliates include both foreign and domestic organizations, both private and public organizations, competing industries, rival government agencies, large and small competitors within industries, the regulated and their regulators, and both suppliers and consumers of information products and services.

To serve our diverse constituencies, we distribute our findings by all practical means: from executive strategy sessions to public testimony, from publications to internships. All our findings are public; none are proprietary or classified.

Affiliates of the Program get:

- An "open door" for affiliate representatives to visit Program principals and staff in Cambridge, to call us with questions when confronted with problems, and to make use of Program resources in any other way that makes sense.
- An annual visit by two or more Program principals for presentations on the Program's latest research and for discussions on topics of mutual interest. Additional visits may be arranged at the affiliate's discretion.
- A library of all Program publications that we deem current and useful, including approximately 100 studies, books, drafts, and incidental publications. Upon request, we can narrow the library to the studies most relevant to the affiliate.
- Copies of all new publications as they appear. In a typical year the Program publishes some 25 reports, incidental papers, and drafts.
- Invitations to all Program seminars. During the academic year, regular seminars open to affiliates and the academic community feature guest speakers from information organizations. Special seminars and workshops take place occasionally as determined by events and affiliate interests, with priority enrollment and discounted fees for affiliates.
- The opportunity to nominate visiting research affiliates to conduct studies of mutual interest to the affiliate and the Program.
- The opportunity to propose topics for future Program research activities.
- The opportunity to review and comment on all studies in draft form.

We begin with the premise that information resources are one of the building blocks of society.

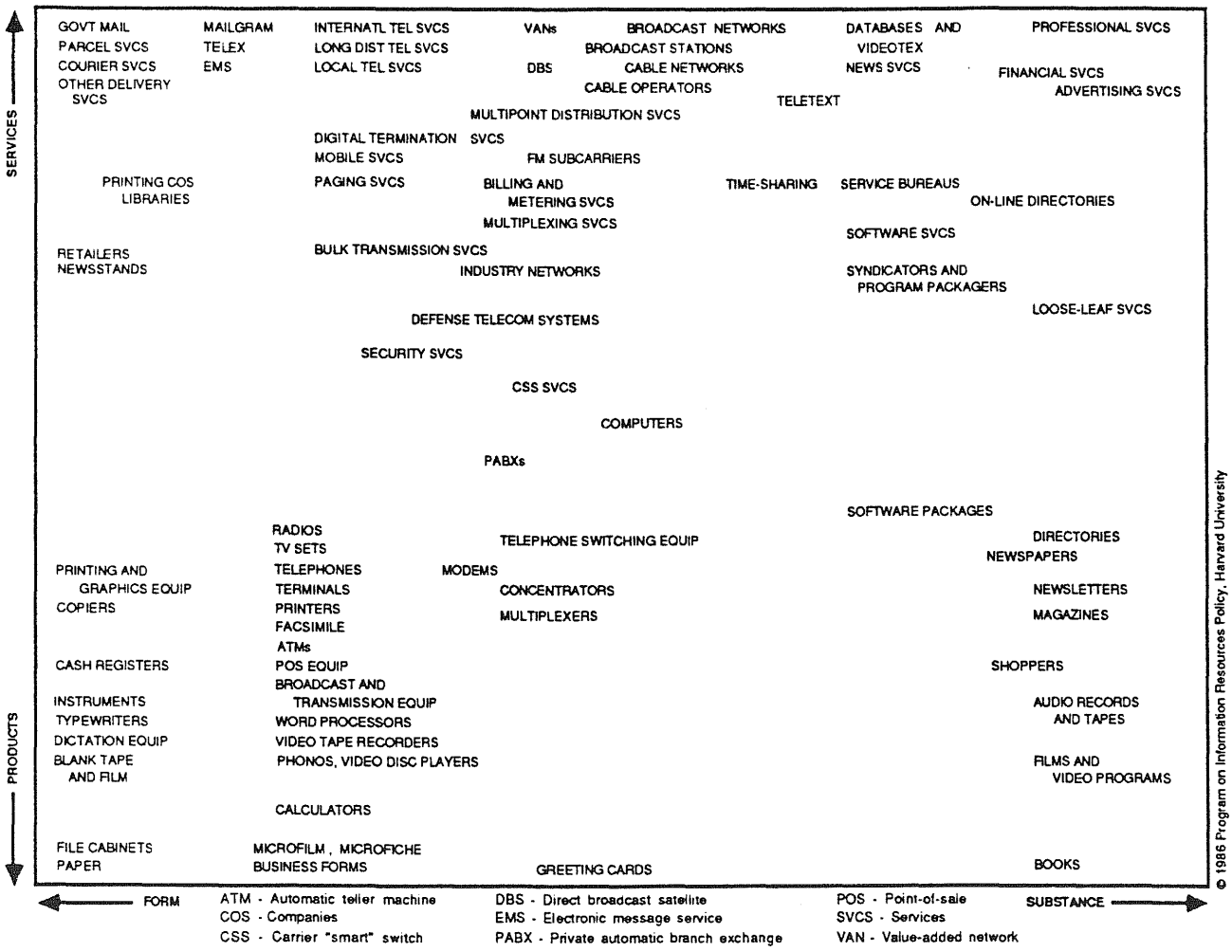


- Without materials nothing exists
- Without energy nothing happens
- Without information nothing makes sense

The possibilities for rebundling combinations of information's substance, format, and process are ever changing, making old product and service bundles obsolete and evolving new ones.

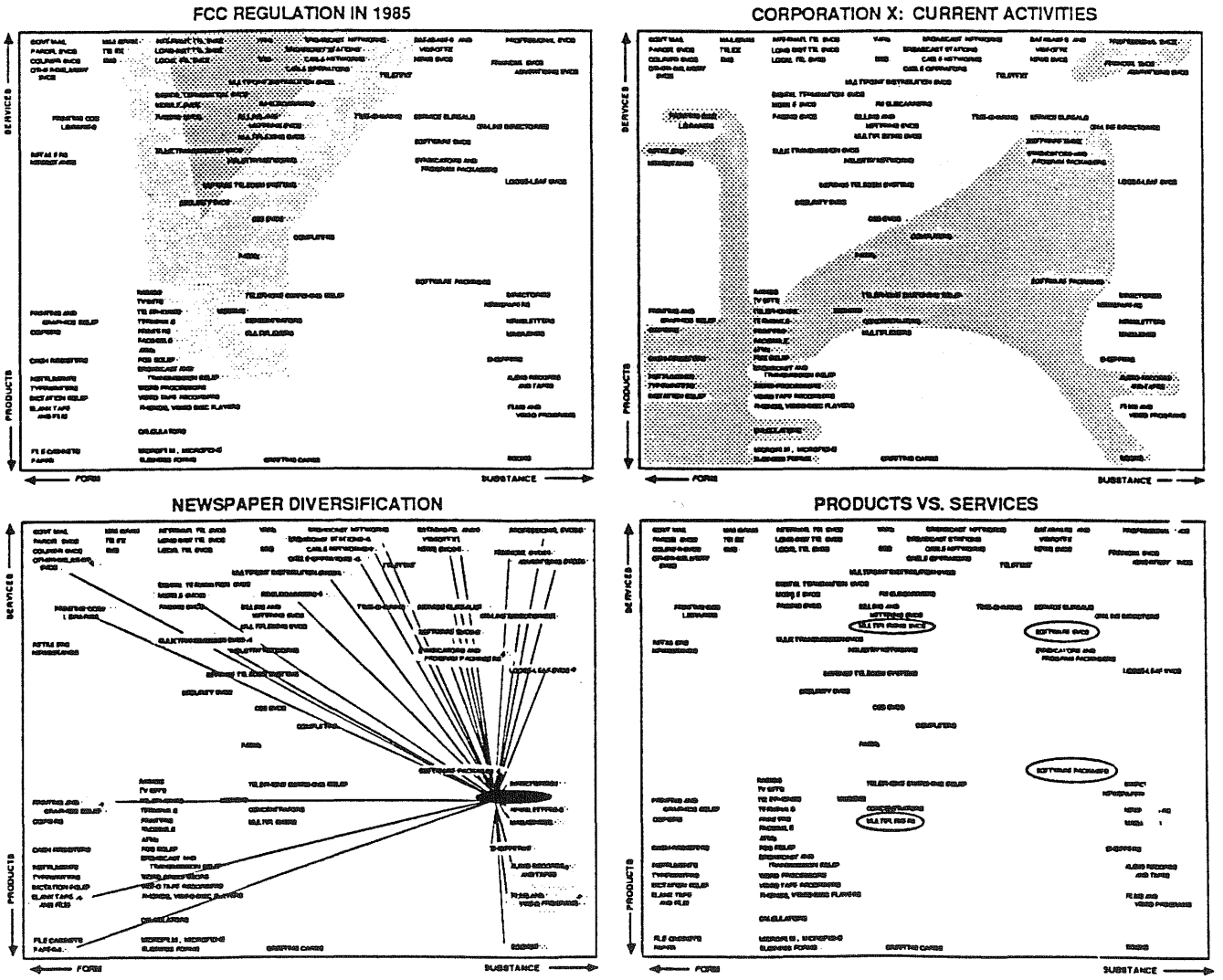
We focus on providers and users of information resources, wherever they may be.

THE INFORMATION BUSINESS



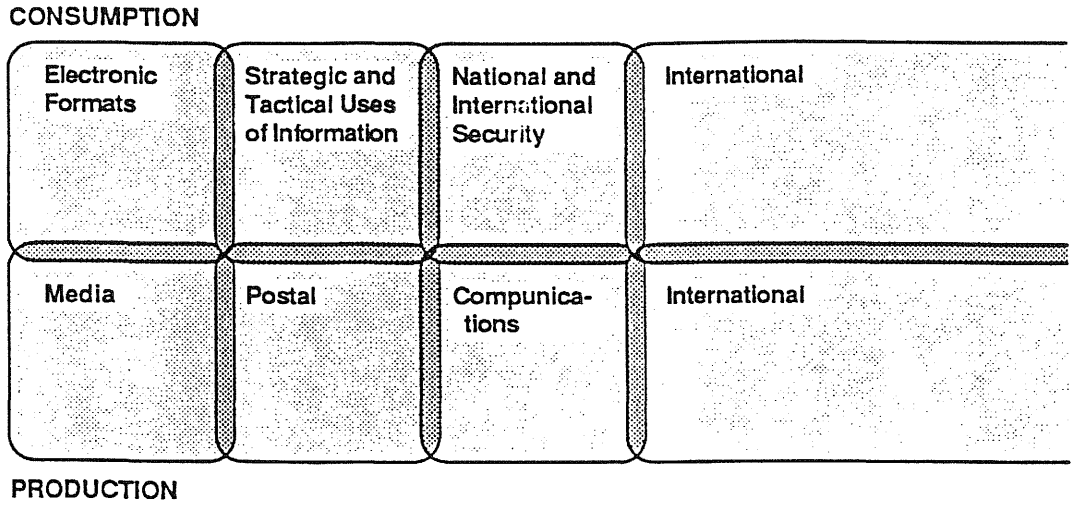
And we continue to plot their place on the map as they define and redefine their business in an unstable environment.

Toward this end, we explore the relocation and rebundling process as it recasts products and services, bringing opportunities and challenges for the creators and providers of information, and raising issues for the regulators and the regulated.



Mapping is one Program tool, among many, for surveying a territory and setting a course.

For administrative convenience, the Program is cut into "arenas" reflecting concentrations of effort.

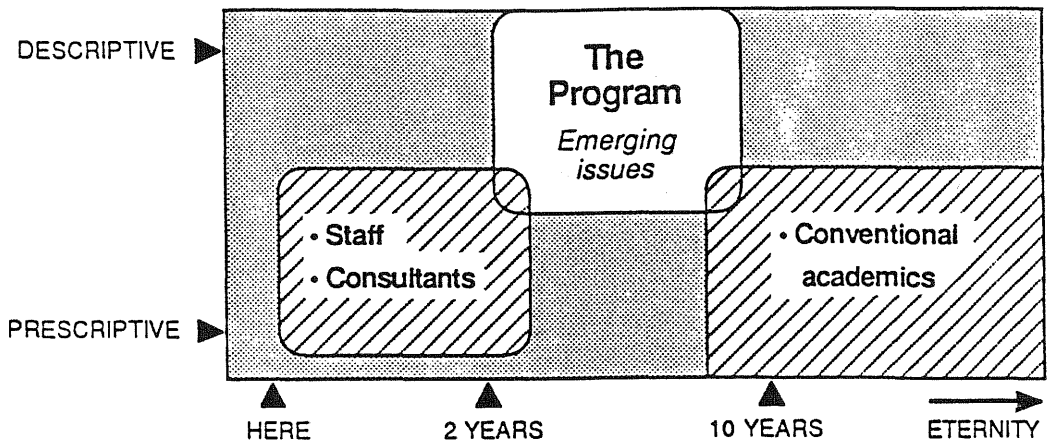


Some arenas probe traditional matters—postal, media, and compunications (computers-and-communications); some focus on new bundles, such as electronic formats.

Others cover cross-cutting concerns: international and national security affairs or strategic and tactical uses of information in business and government.

The arenas are simply a convenience: The real action is in the overlaps.

On the scale from here to eternity, we cover the middle range.

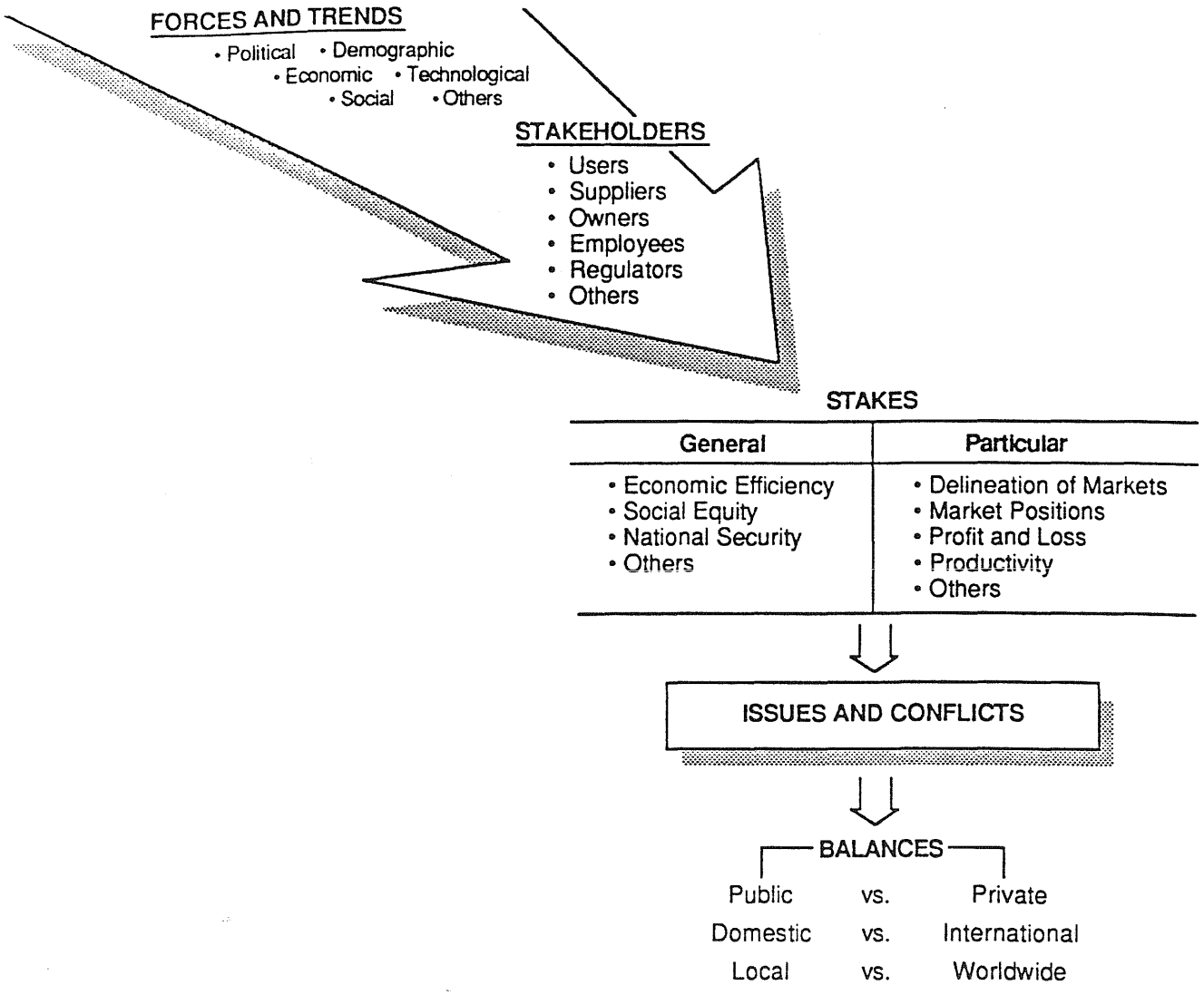


Our distinctive role is to build an inventory of knowledge, for use in crises or as background by business decision makers, by government policymakers, and by the public.

We supply contextual descriptions or peripheral vision, more down to earth than conventional academic research, wider ranging and with greater continuity than conventional staff or consultant assignments. We neither predict nor prescribe specific outcomes.

We aim at early warning. We generally work beyond "firefighting" range, close enough in for problems and issues to be of concern, remote enough for them not to be foreclosed.

We look at issues and conflicts to find the underlying stakes, stakeholders, forces, and trends.



The Program works mainly on controversial matters. We explore issues and conflicts, present, emerging, and perennial. We look for options and the implied threats and opportunities, including those from unknown unknowns.

Issues may arise within organizations:

- Acquire vs. Divest
- Old vs. New markets or product lines
- Centralization vs. Decentralization
- Product line organization vs. Market segment organization vs. Geographic organization
- Common information resources vs. Turf
- Chain of command vs. Skip echelon
- Process optimization vs. Strategic goals
- Electronic vs. Print formats
- Make vs. Buy

and across them:

- Public vs. Private ownership
- More regulation vs. Less regulation vs. Different regulation
- Competition vs. Coordination, standardization
- Central planning vs. Laissez faire
- U.S. vs. Other advanced countries vs. Newly industrialized vs. Developing countries
- Access to information vs. Privacy, security
- Content regulation: Broadcast vs. Print model
- Newspapers vs. Telcos vs. Cable vs. Cassettes vs. Other new media
- Computer vs. Communications industry boundaries
- Manufacturing vs. Services

—to name a few

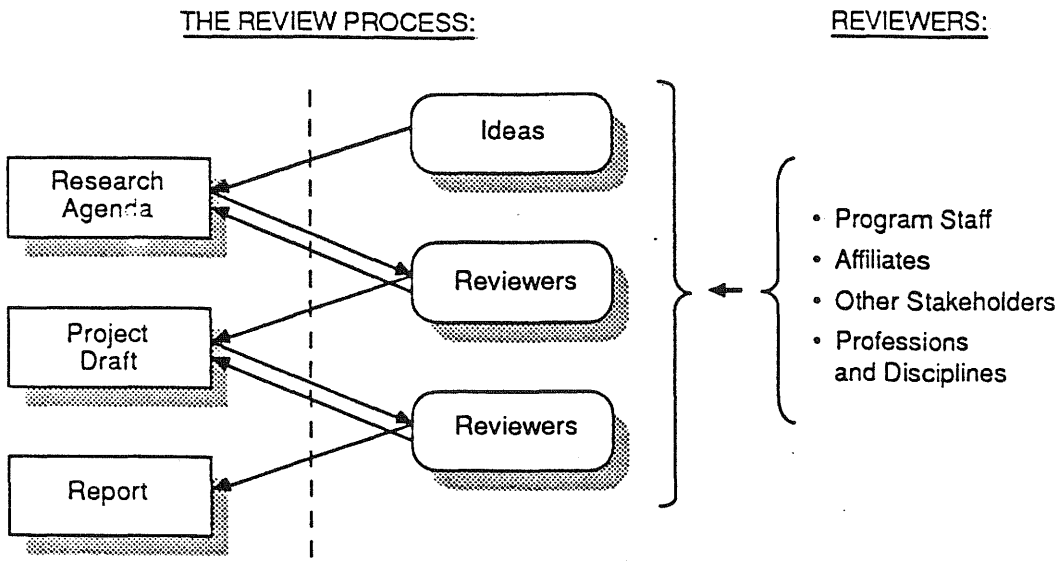
We pick researchers more for quality than for institutional status.

Researchers:

- Program Principals
- Visitors from business and government
- Research affiliates
- Students
- Faculty—Harvard and elsewhere

Collaborators to date have come from AT&T, Bell Atlantic, Bell Canada, Ameritech Publishing, Inc., Duke University, the Federal Communications Commission, New Jersey Bell, Nippon Telegraph and Telephone, Dow Jones & Co., Inc., Norskdocumentdata, Princeton University, the University of Iowa, the U.S. Air Force, the U.S. Information Agency, the U.S. National Security Agency, the U.S. State Department, United Telecommunications, Inc., Honeywell, Inc., the National Defense University, Data Communications Corp. of Korea, law firms, and other organizations. Our colleagues include both active and actively retired business and government personnel, staff and line specialists, and both students and professors.

Diversified review stimulates and controls for impartiality and relevance at every stage of our work.



Our project leaders steer clear not only of partisan advocacy but also of least-common-denominator consensus. The ultimate responsibility is ours after reviewers let us know:

- Are we barking up the right tree?
- Have we unearthed the critical controversies?
- Have we framed the "real" issues?
- Do we have the facts straight about your organization, its stakes or its interests?
- Have we done justice to what your discipline or profession can contribute to illuminating the issues?
- Have we fairly sampled the range of options?
- Is our presentation intelligible?

The Program Principals

Anthony G. Oettinger
Chairman, Program on Information Resources Policy
Chairman, Center for Information Policy Research

Anthony G. Oettinger is Gordon McKay Professor of Applied Mathematics, Professor of Information Resources Policy, and a member of the Faculty of Government at Harvard University. He is a consultant to the President's Foreign Intelligence Advisory Board, a member of the Board of Visitors of the Defense Intelligence College, and a member of the Scientific Advisory Group of the Defense Communications Agency.

He was chairman of the CATV Commission of the Commonwealth of Massachusetts (1975-1979) and a member of that commission from its creation in 1972. He has served as a consultant to the National Security Council (1975-1981) and to the Office of Science and Technology (1961-1973). He has also been a member of the Command, Control, Communications and Intelligence Panel of the Naval Research Advisory Committee (1978-1982), a member of the Research Advisory Board of the Committee for Economic Development (1975-1979), and a consultant to Arthur D. Little, Inc. (1956-1980).

He is a member of the Council on Foreign Relations and a Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, and the Institute of Electrical and Electronic Engineers. From 1966 to 1968 he was president of the Association for Computing Machinery. He was chairman of the Computer Science and Engineering Board of the National Academy of Sciences from 1967 to 1973.

John C. LeGates
Managing Director, Program on Information Resources Policy
President, Center for Information Policy Research

John C. LeGates came to the Program from the business community. As executive director of the Educational Information Network at EDUCOM, he directed the development of nationwide computer communications networks and was a member of the ARPANET NWG, the core design team. As vice president of Cambridge Information Systems, Inc., he was national director of that company's marketing and technical personnel and project director for the Massachusetts General Hospital Integrated Information System. At Bolt, Beranek, and Newman, Inc., he was in charge of exploring the use of computers in education. His studies were in mathematics (Harvard) and philosophy (Yale).

John F. McLaughlin
Executive Director, Program on Information Resources Policy
Vice President, Center for Information Policy Research

John F. McLaughlin brings to the Program 16 years of federal government experience, first with the Federal Aviation Agency's research and development service and then with the Post Office Department and Postal Service Headquarters. He founded and directed the USPS office of strategic planning and now directs the Program's postal policy research.

His Program publication, *Mapping the Information Business*, reflects a portion of his work on the structure of the information industry. Other publications include *Management Information: Back to Basics* (with B.M. Compaine)

and *Telephone-Letter Mail Competition: A First Look.* A long-time student of military history, Mr. McLaughlin has collaborated in developing the Program's research on strategic and tactical uses of information. He edits and oversees annual production of the Program's publication series in this field, *Seminar on Command, Control, Communications and Intelligence: Guest Presentations.*

He received his bachelor's degree in history from Princeton University and studied at the Massachusetts Institute of Technology as a Presidential Fellow in Systems Analysis.

Oswald H. Ganley
Executive Director,
Program on Information
Resources Policy

Oswald H. Ganley teaches at Harvard's John F. Kennedy School of Government and is an Associate of the Center for International Affairs. A former career foreign service officer, he was Deputy Assistant Secretary of State for Science and Technology, Director of the State Department's Office of Soviet and Eastern European Science and Technology Affairs, and diplomatic consultant to the President's Science Advisor. Previously, he served in research and management positions in industry, including as assistant director of international R&D at Merck & Co.

He directs the Program's activity in international and trade areas, drawing on his involvement in diplomatic issues brought about by rapid technological change, especially in communications, and by industrialization and East-West relations.

A consultant to the Under Secretary of State and an advisor to the U.S. Council for International Business, Dr. Ganley wrote *To Inform or To Control? The New Communications Networks*, 2nd ed., Ablex, 1988. He is also co-author, with Gladys D. Ganley, of *Global Political Fallout: The VCR's First Decade*, Ablex, 1987. He holds a Ph.D. from the University of Michigan and an MPA in economics from Harvard.

For more information:

Program on Information Resources Policy
Aiken 200
33 Oxford Street
Harvard University
Cambridge, Massachusetts 02138
U.S.A.

Telephone: 617 495-4114
Telex: 888 737 PIRP UD
Fax: 617 495-3338

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OSAKA UNIVERSITY
6-1, Mihogaoka, Ibaraki, Osaka 567, Japan

The Institute of Social
& Economic Research

Conference Attendees
Conference of Public Utility Research Centers
Columbus, Ohio

May 19, 1989

Dear Conference Attendees:

On behalf of the Transportation and Public Utility Group (TPUG) of the American Economic Association, I welcome you to the Conference of Public Utility Research Centers. The conference is the result of a TPUG initiative to promote greater cooperation and mutual assistance among university based public utility programs and researchers. The initial organizational session was held at the TPUG/AEA meetings in New York last December and attended by Doug Jones, Bob Malko, Eli Noam, David Penn, Dennis Ray, Harry Trebing, and myself. TPUG expresses its deep appreciation to Doug Jones and the National Regulatory Research Institute for offering to host the conference.

As the former Executive Director of the University of Wisconsin's Public Utility Institute, I share your interest and enthusiasm for seeking means to cooperate with and be of assistance to other university programs. I believe that there is much that we can do in sharing ideas, research results, and program information. Also there is much that we can do in promoting educational opportunities for those who have a special interest in public utilities and regulation.

TPUG stands prepared to provide whatever assistance it can in the actualization of the initiatives that will come out of your meeting. Many of the conference attendees are very active in TPUG and have served as past officials of the organization. I will carry on TPUG's commitment to the academic community and to the field of public utilities. I only regret that my sabbatical responsibilities at Osaka University in Japan preclude my being with you. I look forward to the results of your meeting.

Sincerely yours,

Rodney Stevenson

Rodney Stevenson
Chairperson, TPUG of AEA

UTAH STATE UNIVERSITY, LOGAN, UTAH 84322-3510

Department of Business Administration
College of Business
(801) 750-2362

April 24, 1989

Professor Douglas N. Jones
Director
The National Regulatory Research Institute
1080 Carmack Road
Columbus, Ohio 43210-1002

Dear Doug:

Following-up our recent telephone discussion, I will be unable to attend the scheduled meeting on May 22-23, 1989 at The Ohio State University in order to discuss public utility activities at universities and the potential coordinating roles of the Transportation and Public Utilities Group (TPUG) of the American Economic Association because of previously scheduled commitments and trips during May 1989.

I strongly support that TPUG play a major active role in facilitating information exchange for university based public utility centers and activities. I would certainly provide appropriate information and materials to TPUG for this function.

Please find enclosed the following materials: 1) a copy of the program of the 1989 Rate Symposium sponsored by the Missouri Public Service Commission, the University of Missouri-Columbia, and Utah State University; and 2) a copy of the 1989 Financial Forum sponsored by the National Society of Rate of Return Analysts (NSRRA).

Much success with the May meeting. Let us keep in contact.

Regards,

Bob

J. Robert Malko
Professor of Finance and
President - NSRRA

INDIANA UNIVERSITY

SCHOOL OF BUSINESS
Bloomington/Indianapolis

May 15, 1989

Mr. Douglas N. Jones
Director and Professor
of Regulatory Economics
The Ohio State University
1080 Carmack Road
Columbus, OH 43210-1002

Dear Doug:

I have your letter of April 19 regarding your meeting with the directors of university-affiliated public utility research centers. I too am sorry that I will not be able to join you on those dates.

Regarding your inquiry about the relationship with TPUG. First, let me say that I am delighted that the research centers are thinking about doing more than just being aware of the fact that each exists. It certainly seems like this meeting and hopefully future meetings would become a forum for discussing research and perhaps even eliminating duplicate effort.

As for the involvement of TPUG, we might be the vehicle for providing some of the coordinating efforts. Obviously the we do not funds for specific work but I could envision where we could be the coordinating network and with financial assistance from these various research centers to be the focal point for interchange and exchange of ideas, working papers, etc.

I don't know if this is the kind of information that you were looking for but to repeat I think our main contribution might be that of the network. I hope the meeting goes well and that it leads to further such sessions. If so and if TPUG in someway can be of help I would be glad to get involved.

Sincerely,

James E. Suelflow

James E. Suelflow
Professor of Business Econonmics
and Public Policy

cc: Rodney Stevenson
Benjamin Allan

JES/dl

Signed in his absence
by Dorothy Lane