

TRAVEL VOUCHER
MEMORANDUM

DEPARTMENT, BUREAU, OR ESTABLISHMENT Executive Office of the President Office of Telecommunications Policy		VOUCHER NO.	
PAYEE'S NAME Clay T. Whitehead, SS# 509-34-3700		SCHEDULE NO.	
MAILING ADDRESS (Including ZIP Code) OEP/OTP EOBA WA DC 20504		PAID BY	
OFFICIAL DUTY STATION Washington, D.C.	RESIDENCE Washington, D.C.		
FOR TRAVEL AND OTHER EXPENSES		TRAVEL ADVANCE	
FROM (DATE) 3/24/72	TO (DATE) 3/24/72	Outstanding None	\$
APPLICABLE TRAVEL AUTHORIZATION(S)		CHECK NO.	
NO. 746	DATE 3/21/72	Amount to be applied	CASH PAYMENT OF \$
		Balance to remain outstanding	RECEIVED (DATE)

TRANSPORTATION REQUESTS ISSUED

TRANSPORTATION REQUEST NUMBER	AGENT'S VALUATION OF TICKET	INITIALS OF CARRIER ISSUING TICKET	MODE, CLASS OF SERVICE, AND ACCOM- MODATIONS *	DATE ISSUED	POINTS OF TRAVEL	
					FROM-	TO-
B-1,286,956 TA 746	\$20.00	AL	Air/First	3/23	Philadelphia, Pa.	Washington, D.C.

April 3, 1972

AMOUNT
CLAIMED

Dollars Cts

- 0 -

Approved. Long distance telephone calls are certified as necessary in the interest of the Government.

DIFFERENCES:

NEXT PREVIOUS VOUCHER PAID UNDER SAME TRAVEL AUTHORITY
VOUCHER NO. D.O. SYMBOL DATE (MONTH-YEAR)Total verified correct for charge to appropriation(s)
(initials)

Applied to travel advance (appropriation symbol)

NET TO
TRAVELER

ACCOUNTING CLASSIFICATION

* Abbreviations for Pullman accommodations: MR, master room; DR, drawing room; CP, compartment; BR, bedroom; DSR, duplex single room; RM, roomette; DRM, duplex roomette; SOS, single occupancy section; LB, lower berth; UB, upper berth; LB-UB, lower and upper berth; S, seat.

1

PREVIOUS TEMPORARY DUTY (Complete these blocks only if in travel status immediately prior to period covered by this voucher and if administratively required)

DEPARTURE FROM OFFICIAL STATION
(DATE) | (HOUR)[illegible][illegible]

Grand total to face of voucher
(Subtotals, to be carried forward if necessary)

* If per diem allowances for members of employee's immediate family are included, give members' names, their relationship to employee, and ages and marital status of children (unless this information is shown on the travel authorization).

CLAY T. WHITEHEAD

Tickets to be picked up 3/23 (Thursday), at the
Penn-Central Office at 1435 G. St., N.W.
(Washington Bldg., Room 619)

Friday, March 24, 1972:

4:00 p.m.	LV Penn-Central, via Metroliner 112, Seat 22 - Car 121 - Code 149 (First Class)
5:43 p.m.	AR Philadelphia

CLAY T. WHITEHEAD

Tickets to be picked up at Allegany Airlines,
Statler Hilton, 16th & K Sts., N.W., on
Thursday, 3/23.

Friday, March 24, 1972:

9:24 p.m. LV Philadelphia International Airport, via AL # 680.

10:08 p.m. AR Washington National Airport.

<p>EXECUTIVE OFFICE OF THE PRESIDENT</p> <p>OFFICE OF EMERGENCY PREPAREDNESS</p> <p>AUTHORIZATION OF OFFICIAL TRAVEL</p>		<p>1. Date of request March 21, 1972</p> <p>2. Name and address of traveler Clay T. Whitehead SS #509-34-3700 OEP/OTP EOBA WA DC 20504</p>									
<p>Submit original and 2 copies to Fiscal Section at least 3 working days in advance of proposed travel</p>		<p>3. Title Director</p>									
<p>This document becomes an authorization of official travel only when the certificate of authorization has been signed by the designated authorizing official. This travel is ordered on official business for the convenience of the Government.</p>		<p>4. Type of appointment Presidential</p> <p>5. Orgn. unit (<i>Division</i>) Office of Telecommunications Policy</p> <p>6. Official station Washington, D. C.</p>									
<p>7. Purpose of travel To address the Annenberg School of Communications, University of Pennsylvania</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">8. Period of travel March 24, 1972</td> <td style="width: 50%;">9. Est. No. of days of travel status 1</td> </tr> <tr> <td>10. Per diem rate \$9.00</td> <td>11. Office number of traveler 770, 1800 G St., N.W.</td> </tr> <tr> <td>12. Mileage rate</td> <td>13. Phone number of traveler 5800</td> </tr> </table>		8. Period of travel March 24, 1972	9. Est. No. of days of travel status 1	10. Per diem rate \$9.00	11. Office number of traveler 770, 1800 G St., N.W.	12. Mileage rate	13. Phone number of traveler 5800		
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12. Mileage rate	13. Phone number of traveler 5800										
<p>14. Itinerary</p> <p>Washington, D. C., to Philadelphia, Pa., and return to Washington, D.C.</p>											
<p>15. Travel to be performed as indicated</p> <table style="width: 100%;"> <tr> <td style="width: 40%;"> <p>a. <input checked="" type="checkbox"/> Common carrier including commercial airline</p> <p>b. <input type="checkbox"/> Government-owned vehicle</p> <p>c. <input type="checkbox"/> Other (<i>Specify</i>)</p> </td> <td style="width: 60%;"> <p>d. By privately-owned automobile:</p> <p>(1) <input type="checkbox"/> Reimbursable cost not to exceed common carrier cost <u>or</u></p> <p>(2) <input type="checkbox"/> Administratively determined to be more advantageous to the Government—common carrier use impracticable (if checked, explain under item 20, 'Remarks'.)</p> </td> </tr> </table>				<p>a. <input checked="" type="checkbox"/> Common carrier including commercial airline</p> <p>b. <input type="checkbox"/> Government-owned vehicle</p> <p>c. <input type="checkbox"/> Other (<i>Specify</i>)</p>	<p>d. By privately-owned automobile:</p> <p>(1) <input type="checkbox"/> Reimbursable cost not to exceed common carrier cost <u>or</u></p> <p>(2) <input type="checkbox"/> Administratively determined to be more advantageous to the Government—common carrier use impracticable (if checked, explain under item 20, 'Remarks'.)</p>						
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<p>16. Allotment number 82/OTP/210</p>		<p>17. Appropriation symbol 1120601</p>									
<p>18. Travel authorization No. <i>746</i></p>		<p>19. Estimated cost of travel</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Transportation</td> <td style="width: 70%;">\$44.00</td> </tr> <tr> <td>Per Diem</td> <td>9.00</td> </tr> <tr> <td>Other</td> <td>10.00</td> </tr> <tr> <td>Total</td> <td>\$63.00</td> </tr> </table>		Transportation	\$44.00	Per Diem	9.00	Other	10.00	Total	\$63.00
Transportation	\$44.00										
Per Diem	9.00										
Other	10.00										
Total	\$63.00										
<p>20. Remarks</p> <p>First class travel authorized.</p>		<p>21. Requested by</p> <p style="text-align: center;">Director</p> <hr style="border: 0; border-top: 1px solid black;"/> <p style="text-align: center;">Office of Telecommunications Policy</p> <p style="text-align: center;"><small>Signature</small></p> <p style="text-align: center;"><small>Title</small></p>									
<p>22. Funds Obligated</p> <p style="text-align: center;">FUNDS OBLIGATED</p> <p style="text-align: center;">MAR 22 1972</p> <hr style="border: 0; border-top: 1px solid black;"/> <p style="text-align: center;"><small>Signature</small></p> <hr style="border: 0; border-top: 1px solid black;"/> <p style="text-align: center;"><small>Title</small></p>		<p>23. CERTIFICATE OF AUTHORIZATION</p> <p style="text-align: center;">- P</p> <p>You are hereby authorized to travel at government expense, to be paid from available appropriations in accordance with the regulations of the Office of Emergency Preparedness and the Standardized Government Travel Regulations as amended, under conditions noted on this authorization.</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p style="text-align: center;"><i>[Signature]</i></p> <hr style="border: 0; border-top: 1px solid black;"/> <p style="text-align: center;">Michael J. McCruden, III</p> <p style="text-align: center;"><small>Signature</small></p> </div> <div style="width: 45%;"> <p style="text-align: center;">Executive Assistant</p> <hr style="border: 0; border-top: 1px solid black;"/> <p style="text-align: center;"><small>Title</small></p> </div> </div>									
<p>IMPORTANT- Every voucher or message concerning this travel must refer to the travel authorization number.</p>											

ITINERARY FOR
CLAY T. WHITEHEAD
PHILADELPHIA, PENNSYLVANIA
MARCH 24, 1972

Friday, March 24, 1972:

4:00 p.m. LV Penn-Central, via Metroliner 112

5:43 p.m. AR Philadelphia, Pennsylvania

Mr. David Kent (member of the staff that is putting on the Symposium) will pick you up at the station and take you via limousine to the Symposium, which is being held at the International House, 37th and Chestnut Streets.

7:00 p.m. International Symposium on Communication;
Dinner - then speech to the Annenberg
School of Communications and the
Communications Workers of America.

Mr. William H. Melody
Associate Professor of
Communications & Economics
The Annenberg School of Communications
University of Pennsylvania

(215) 594-7180

Mrs. Schiller (secretary for the symposium)

(215) 594-7041

8:45 p.m. Mr. David Kent will take you via
limousine to Philadelphia International
Airport.

9:24 p.m. LV Philadelphia via AL #680

10:08 p.m. AR Washington National Airport
(Coyt will pick you up)

Daddy

4/6/72

Linda -

For your files.

Melan Y.

OFFICE OF TELECOMMUNICATIONS POLICY
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C. 20504

3/24
7:00 PM

February 23, 1972

To: MR. WHITEHEAD

From: Linda Smith LKS

Subject: Invitation to Address Annenberg School and Communications Workers of America Symposium

You have been asked to be the dinner speaker at the "International Symposium on Communication: Technology, Impact and Policy," sponsored by the Annenberg School of Communications and the Communications Workers of America, on Friday evening, March 24, in Pennsylvania.

The Symposium will be held March 23-25, and consist of six panels meeting in working sessions. The topics and some people presenting papers: (approximately 6 per topic)

1. Time, Space and Pace: Defining Dimensions of Change - Arthur D. Hall
2. Institutional Powers and Controls: Who Decides What for Whom - Nicholas Johnson, William Melody (who invited you)
3. Acculturation and Education: Growing Up in Changing Cultures - Jerome Bruner
4. The Intimate Strangers: Living Together in New Communities - Theodora Shlorer
5. World Systems: Integrating on Disintegrating? - an international group from NASA, Israel, Chile, Switzerland, Finland and Canada.
6. Which Way the Future? Measures, Trends and Indicators - Various.

The Symposium results from a smaller conference held last year, and as part of the School's Colloquium Program for speakers outside the Academic Community. In the fall of 1971, Walter Hinchman spoke on communications technology and radio frequency spectrum. Walt will be attending this Symposium.

350 people (students, experts, etc.) will attend the Symposium. Thursday, March 23 the dinner speakers will be Joe Byrne of CWA and Dennis Gabor, the Noble Prize Winner. You have been asked for Friday, March 24 at dinner, to speak on "Functions of Communications Policy Planning in the US and the Role of OTP."

Professor Melody feels the Symposium designed to "address the problems of anticipating and directing communications technology to meet the needs of society, rather than simply absorbing the consequences of random technological development," answers your University of Texas criticisms of communications graduate schools. He is, therefore, anxious that you accept.

If the dinner speech is inconvenient, you have been asked to speak at lunch, also Friday, March 24. The problem with this is time: lunch would start at 12:30 p.m. and the afternoon sessions at 2 p.m. You would be the only lunch speaker, as the Symposium doesn't start until noon on Thursday and ends at noon on Saturday.

Walter feels that it is hard to tell about this conference. At first he thought it would be good, but having seen the list of participants, he feels that it is a "rather limited segment of fairly liberal types with a somewhat regulatory mentality." Since Walter will be attending, and since your schedule is already so heavy, I recommend you regret.

Message
03/29/72

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

The Annenberg School
of Communications
3620 WALNUT STREET

Telephone: 594-7041

March 10, 1972

President Richard M. Nixon
The White House
1600 Pennsylvania Avenue
Washington, D. C. 20500

Dear Mr. President:

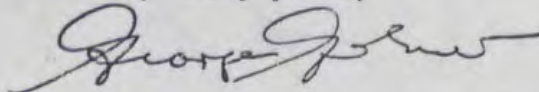
EH
The Annenberg School of Communications, University of Pennsylvania, and the Communications Workers of America are co-sponsoring an International Symposium on Communications on March 23, 24, and 25, 1972.

The enclosed brochure will indicate the range and depth of this Symposium, at which Dr. Clay Whitehead will be a principal speaker.

Certainly with the unprecedented efforts being made to bring about fuller mutual understanding between the peoples and governments of all nations an International Symposium on Communications at this time has special significance.

It would be deeply appreciated if you were to send a message to the Symposium in time to have it read at the opening dinner-conference on March 23.

Very truly yours,



George Gerbner,
Professor of Communications
and Dean

GG:kas
enclosure

THE WHITE HOUSE
WASHINGTON

March 14, 1972

MEMORANDUM FOR TOM WHITEHEAD

If you feel it would be sufficient, could you please express the President's greetings verbally when you speak at this Symposium.

Should you, however, rather have a written Presidential message, I will be happy to get one through the system if I may have a draft from you as soon as possible.

Thank you.

E. Hasek

Eliska Hasek

Att.



Verbal

International Symposium on Communication

Technology, Impact and Policy

January 13, 1972

Dr. Clay T. Whitehead, Director
Office of Telecommunications Policy
Executive Office of the President
Washington, D.C. 20504

Dear Dr. Whitehead:

The Annenberg School of Communications, a graduate school at the University of Pennsylvania, and the Communications Workers of America, a labor union, have joined forces to sponsor an International Symposium on Communication: Technology, Impact and Policy, to be held at the University of Pennsylvania, March 23-25, 1972. Approximately forty technical experts, social scientists, communications scholars and researchers from eight countries will assemble in Philadelphia to discuss these issues with an invited group of about 250 participants. Six panels will meet in working sessions to explore technological, institutional, educational, urban, and international issues. A copy of the Symposium brochure, which describes events in greater detail, is being forwarded to you under separate cover.

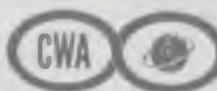
On behalf of the Symposium Directors, it is my privilege to invite you to join Symposium contributors and participants at dinner, Friday, March 24, 1972, at 7:00 p.m., and address them briefly after dinner. The duration of your address could be anywhere from fifteen to thirty-five minutes, depending upon your desires and other demands on your time. What is most important, we think, is a deepening of the understanding by all participants of the functions of communications policy planning and the role of the Office of Telecommunications Policy. Hence, it would be appropriate for you to discuss the past, present, and future characteristics of communications policy planning in the United States. However, should you wish to pursue a different topic for the occasion, please feel free to do so. In the event that you cannot accept our invitation for Friday evening, we would be happy to have you join us for lunch on the same day at 12:30 p.m.

March 23-25, 1972 • Philadelphia, Pa.



The Annenberg School of Communications
University of Pennsylvania
3620 Walnut Street, Philadelphia, Pa. 19104
215/594-7041

7/80



Communications Workers of America
1925 K Street, N.W.
Washington, D.C. 20006
202/337-8070



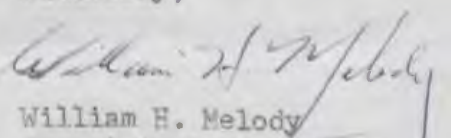


Dr. Clay T. Whitehead

At the Annenberg School we have been particularly sensitive to the tendency for one's thinking to be constrained by present technologies, institutions and policies. The Symposium, which is an outgrowth of a smaller conference of experts and scholars on the same subject held at the University of Pennsylvania almost a year ago, is part of the continuing effort to ensure that our thinking is forced beyond the confines of present structures. That effort also takes the form of inviting innovative thinkers and scholars from outside the academic community to address the School as part of its Colloquium program. During the fall of 1971 we were fortunate to have Walter Hinchman of the Office of Telecommunications Policy speak on the subject of communications technology and the radio frequency spectrum. These and related kinds of activities, we hope, exempt us from sweeping criticisms of the kind attributed to you during your visit to the University of Texas, November 18, 1971, that graduate schools of communication tend to think only in terms of how present technology can be extended along existing lines, and not in terms of how technology can be planned to meet the social needs of the future. The purpose of the International Symposium on Communication is to address the problems of anticipating and directing communications technology to meet the needs of society, rather than simply absorbing the consequences of random technological development.

We will be honored if you can join us at the Symposium. Your presence would provide a unique contribution to the experience of participants and provide us with an opportunity to enhance your familiarity with the communications program at the Annenberg School.

Sincerely,


William H. Melody
Associate Professor of
Communications & Economics

Alfred P. Sloan
Fellows
Program

June 16, 1972
to
June 1, 1973

Massachusetts
Institute
of Technology

Alfred P. Sloan
School
of Management

Application for

Last Name First Middle

Organization

The M.I.T. Alfred P. Sloan Fellows Program in Executive Development 1972-73

Alfred P. Sloan School of Management
Massachusetts Institute of Technology

To be considered, this application must be mailed to bear a postmark not later than February 1, 1972. Announcements of awards may be expected about April 1.

The Sloan Fellows Program

The Sloan Fellows Program of the Massachusetts Institute of Technology is designed for a limited number of able young executives whose employers nominate them to the Program because they show marked promise of growth into major responsibilities.

These young executives, who are about one-third of the way along in their indus-

trial careers, spend 12 months at M.I.T., studying in depth the fundamentals that underlie sound management action.

A booklet describing the Program is available upon request. Candidates are usually nominated by their present employers.

Application Form

This application must be submitted by each candidate for this Program and must be supported by other materials as indicated below. All materials should be sent to Peter P. Gil, Associate

Dean for Teaching Programs, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

You should yourself submit:

- a**
A completed application.
- b**
A complete employment record as called for on page 4.
- c**
A statement, approximately 500 words, prepared by you indicating your immediate and ultimate objectives in wishing to undertake this Program.

- d**
A nomination letter from a principal executive of your company indicating approval of your candidacy and willingness (should you be accepted) to provide a leave of absence, appropriate financial support, and a warm and continuing interest in your career with the organization.

In addition you should arrange to have sent directly to the Associate Dean for Teaching Programs:

- e**
Official transcripts of your record at the college from which you obtained your Bachelor's degree and of your record in any subsequent graduate work. (This should be initiated promptly.)

- f**
Letters of endorsement from four persons whom you have requested to write *directly to the Associate Dean for Teaching Programs*.
-

1. Name _____
Last First Middle

2. Home address _____
Telephone _____

3. Date of birth _____ Country of birth _____ Citizenship _____

4. Marital status _____ If married, wife's first name _____ Number of children _____

5. Father's name _____ Occupation (present or last) _____

6. Your present position _____
Title and Department Starting Date Annual Compensation

Company Name and Address Business Telephone

Company's Principal Business

7. Give a brief statement describing your present duties. _____

8. List below, in chronological order, other principal positions you have held since leaving college.

Date Employer and City of Location Position Annual Compensation

9. Colleges attended.

Date Name of College Major Field Degree and Date

10. Indicate the approximate distribution (in per cent) of your college training, including any graduate work.

Science and Liberal Business Other
engineering arts Economics administration (specify)

11. State, if possible, your relative academic standing (for example, fifth in a class of forty); list and describe your honors or other evidence of high scholarship. _____

12. Describe any courses which you have undertaken since graduation. _____

13. Describe your memberships and activities, if any, in trade, professional, and/or civic organizations. _____

14. Describe your avocational interests (hobbies, recreation, sports, books, club membership, etc.) indicating the level of your activity. _____

15. Give a brief statement of your present physical condition, indicating your past medical history and present physical handicaps if these are of such nature as to limit your activities. _____

_____ Height _____ Weight _____

16. If married, please ask your wife to write her own statement regarding this program and moving to the Cambridge area. _____

Signed _____

17. Give below the names and addresses of four references whom you have requested to write *directly to the Associate Dean for Teaching Programs*. You should inform each individual as to the aspect of your background which he is to cover. Well-balanced, analytical letters are more effective than those devoted solely to praise.

_____ A person who knows you and (if you are married) your wife as individuals in the community

_____ A person who is familiar with your academic background—if available

_____ One of your superiors who will discuss your strengths, weaknesses, and prospects within the organization

_____ Another individual who is familiar with your industrial work

18. On an accompanying sheet, give a complete record of your employment since graduation, giving for each separate employer:
1. Dates of service
 2. The employer's name and address
 3. The nature of the business or industry
 4. Position (s) held, with a brief description of duties
 5. Names and titles of immediate superiors
 6. Reason (s) for leaving.
- (Military service, if any, should be included in this record.)

19. On a separate sheet, please submit any supplementary remarks concerning your qualifications which may aid the Committee.

I submit the above information in connection with my application for the Sloan Fellows Program. I understand that final acceptance to the Program (the number and the selection of Fellows) lies entirely within the discretion of a Committee appointed by the Massachusetts Institute of Technology for that purpose.

Signed _____ Date _____

Note: Please use this form and additional appendices only when you need more space.

Alfred P. Sloan, Jr.

"The revolution in industrial management in the United States has been characterized by the use of an executive group, increasingly professional in background and method, by growing stress on human relationships at all levels of industry, and by a wave of new techniques. The significant lesson we have learned is the requirement, in the cause of increased efficiency, of a

more intimate relationship between working industry and working education. In accepting that concept the management of American enterprise is recognizing, in an accelerating degree and in its own self-interest, the demand for a truly scientific approach to the problems of industrial management."

The Alfred P. Sloan Fellows Program

A twelve-month program leading to the degree of Master of Science in Management – designed to broaden and develop outstanding but typically specialized young executives for more general and senior management responsibilities in the future.

From forty-five to fifty Sloan Fellows are selected each year. They are thirty-two to thirty-eight years of age with ten to fifteen years of successful experience behind them and some thirty years of significant contributions to their organizations ahead of them.

Men from the U.S. and abroad are nominated by industrial and non-industrial organizations, selected by MIT, and designated Alfred P. Sloan Fellows.



Alfred P. Sloan
Fellows
Program

June 16, 1972
to
June 1, 1973

Massachusetts
Institute
of Technology

Alfred P. Sloan
School
of Management

Jerome B. Wiesner, President
Massachusetts Institute of Technology

William F. Pounds, Dean, Sloan School of
Management



Peter P. Gil, Associate Dean for Teaching Programs, Sloan School of Management

Robert Ilfeld, Associate Director for Executive Programs, Sloan School of Management



The Alfred P. Sloan School of Management

The Alfred P. Sloan School of Management, founded at MIT in 1952 as the School of Industrial Management, is the outgrowth of a pioneering curriculum combining management and engineering education which was first organized at the Institute in 1914. The gift of Alfred P. Sloan, Jr. in 1952 was the landmark in establishing a new level and a new scope in management education at MIT, and much of the story of management education at the Institute has been written since then. The Sloan School now offers an undergraduate course leading to the degree of Bachelor of Science in Management; a two-year Master's Program leading to the degree of Master of Science in Management; a Doctoral Program leading to the degree of Doctor of Philosophy; a one-year Alfred P. Sloan

Fellows Program leading to the degree of Master of Science in Management; a Program for Senior Executives, a nine-week executive development program for senior members of management; and a four-week Urban Management Program for those who manage city, county, and state governments. Over the past several years the School has developed an extensive program of summer courses designed primarily to meet the needs of practicing professionals.

In all its efforts, the School is committed to educating enterprise managers – men who have the will to manage and to risk, who can deal with complex systems, who have insight into themselves as well as others, who understand the total environment in which they live, and who continue to learn.

The School seeks to provide these men with a solid grounding in the academic disciplines relevant to management – economics, mathematics, and the behavioral sciences – and to develop their awareness of the multiple facets which characterize important management problems, from technical data to human factors. We want them to be able to reach decisions. At his best, our graduate has the ability to move decisively and responsibly in an increasingly complex world. The opportunities for such men in a society full of challenge, both social and technical, are substantial and growing in fields which include industrial management, the management of health services, the management of education, and the management of public and urban affairs.

The education of men for management is our first purpose. But we are equally committed to the conduct of research to produce new understanding and better solutions to management problems, and we are engaged in communicating these results to an increasingly broader audience. Together, our research and educational goals are mutually reinforcing, and we are confident of their continued impact on the fields of management and management education.

The Sloan School of Management is under the leadership of Dean William F. Pounds.

The Executive Development Programs include the Sloan Fellows Program, the Program for Senior Executives, and the Urban Management Program. All are part of the School's regular teaching program and are under the direction of Associate Dean Peter P. Gil.

In all of its academic programs, the resources of the Sloan School are supplemented by those of the Departments of Economics and Political Science of the School of Humanities and Social Science. These Departments share with the School of Management the modern facilities of the Alfred P. Sloan Building and the Grover M. Hermann Building, containing the Dewey Library of Management and Social Science.

The Program: Content and Structure

1 Functions

The study of the rapidly changing theory and practice of management decisions within the context of specific functions and supporting specialties: marketing, finance, managerial information for planning and control, organizational behavior, system dynamics, industrial relations, quantitative methods, operations management, and management information systems. A strong emphasis is given throughout the entire year to quantitative analysis and to the study of human behavior.

2 Environment

The study of the dynamic environment within which an organization must operate today: the social, economic, political, and technological pressures confronting present-day management. The work in this area includes micro- and macro-economics; developments affecting industry in science, technology, and the arts; the structure of American law and labor law; foreign policy; international economics; international business; market structure and public policy; and government and industry relations.

The Program: Principal Characteristics

Whenever possible, the Sloan Fellows work in groups of approximately twenty-five. Groups are rotated at the end of the summer and fall terms to allow the maximum interaction among these carefully selected young managers who represent a wide diversity of organizations, functions, and countries.

Work in small groups facilitates a close, informal relationship with the faculty of the Sloan School of Management. The Fellows also are encouraged to draw on the resources of MIT's four other schools: Engineering, Science, Architecture and Planning, and Humanities and Social Science. In the spring term they may choose electives from any of the schools within the Institute or from Harvard University and Wellesley College.

The resources at the Institute and in the greater Boston area are extensive. Each Sloan Fellow will profit from his year to the extent that he seeks out what is available; and what he seeks will depend on his intellectual curiosity, organizational maturity, and initiative in reaching out for growth opportunities.

It is not a vocational program. There are no techniques or tools offered which a man may apply, back on the job, the day after he is graduated.

3 Research

The thesis. For those who elect to work towards the Master's degree, the thesis presents the opportunity to analyze in some depth a problem area of management. The thesis permits a man to work closely with members of the faculty on a research project of his own choice, while carrying the main responsibility for his own analysis and conclusions. Sloan Fellows' theses have been awarded the E.P. Brooks Prize for the best Master's thesis in the Sloan School of Management. Here the emphasis is on integrating and applying the quantitative and qualitative approaches studied during the year.

Joint theses, by teams of two or three, are encouraged. Such teams have collaborated on the analysis of on-going problems faced by industrial and non-industrial organizations.

4 Management Policy and Practice

Discussions with corporation presidents and senior government executives in the U.S. and abroad. The discussions are informal, and Sloan Fellows devote a great deal of effort to studying the executive and his organization in order to develop the most profitable lines of inquiry to follow during the meetings. The meetings are followed by critical debriefing sessions. These meetings provide a unique opportunity to analyze, at first hand, a wide variety of management styles and to examine a top manager's thought processes (to what does he attach priorities and why?). An intimate exposure to the current preoccupations of men who innovate at the top policy levels of industry and government. Members of

the faculty work closely with the Sloan Fellows in this area – both as far as the special meetings are concerned and in formal classroom sessions in the policy area.

A man may, however, look forward to stretching intellectually – to an awareness of significant new concepts and forthcoming critical issues. He may go through an unlearning process: leaving behind stereotypes and subjective judgments which fail the test of objective analysis. He should finish this rigorous and demanding year with a strong motivation and competence to go on learning and growing long after he has left MIT.

A great deal of what a man learns will be of direct benefit to his organization; but the organization will benefit most from the personal growth that the individual derives from this experience.

The Sloan Fellows

The age range of Sloan Fellows is usually thirty-two to thirty-eight, with an average of thirty-six; but in exceptional cases men who are slightly younger or older may be accepted. They should have had ten to fifteen years of experience after completing their academic education. Some part of that experience should indicate the ability to carry managerial, as contrasted with purely technical, responsibilities.

Although most of the Sloan Fellows come from industry and government, there has been an increasing number who manage cities, health services, school systems, and other non-industrial operations. The curriculum of the School has wide applicability to the management of many kinds of organizations.

American and foreign organizations – both small and large – may nominate candidates; occasionally applications are accepted from men applying on their own. The great majority of Sloan Fellows have successfully completed a course of studies leading to a Bachelor's degree in a recognized college or university. Men with both technical and nontechnical backgrounds may qualify. The list of the 1971-1972 Sloan Fellows on pages 43 through 46 indicates job titles, organizational affiliations, and educational backgrounds which may be considered typical.

Wives of Sloan Fellows

The wives of executives play an important role in their husbands' careers, and experience has shown the importance of having the wives of Sloan Fellows share in the profound evolution in thinking which their husbands experience during the year. Sloan Fellows are therefore expected to move to the Boston area with their wives and children. Here the wives may participate in and contribute to the Program in many informal ways, and a number choose to attend various seminars throughout the year at which the ladies meet with members of the faculty and guest speakers.

The wives should look at all activities during the year as being completely optional in every sense of that term. There are no required activities for the wives.

Men who attend the Program have been selected carefully by their senior management and by MIT from a great number of potential candidates. They are mature, intelligent, and conscientious. They have already carried responsibilities, and they have demonstrated unusual skill and judgment on the job. Their heads are not easily turned by the honor conferred upon them; nor do they regard their year at MIT as any form of promise for the future. They know from experience that promotions come from accomplishments on the job and that their year of study is designed to help them develop into more effective and responsible employees and citizens.

The Fellows see in the Program a unique opportunity to devote themselves, full time, to the rapidly growing body of management theory and practice being produced by both academic and industrial research. Theirs is an ideal age at which to reappraise personal outlooks and to begin building a working philosophy for the future within the atmosphere of an Institute which has always been identified closely with industry and technology.

These views of the Sloan Program are shared by the more than 900 alumni of the Program and by the chief executive officers who have sponsored their young executives over the years as part of their far-sighted plans to build a competent and competitive management for the years to come.

Organizational Support

Applicants must have the recommendation and enthusiastic support of several levels of their organization's management. They should have assurance of a year's leave of absence and of suitable financial aid. There must also be some assurance that the applicants will have opportunities to reach positions of senior responsibility in which the year's experience in the Program will be of special significance.

Men rarely leave the organization that sponsored them as Sloan Fellows. Organizations tend to nominate only those who have already established a successful and promising career: those who have clearly demonstrated, by outstanding performance on the job, that they have the potential for assuming general management responsibilities in the future. Quite often a man will be nominated between jobs: at that point where he is to be moved to a new position – whether or not the new position has been clearly defined at the time he comes to MIT. Quite clearly the most effective utilization of these precious human resources is best real-

ized by those organizations that use the Sloan Program within the context of a systematic, long-range management development plan. The Sloan Program does not take a man out of the mainstream for one year: the year should be considered as one important phase of a man's career-long growth and development well within the mainstream of feeding into an organization the most advanced management technology and individual competence.

Please Note:

Sponsoring organizations are urged to brief their successful applicants before they come to MIT. Sloan Fellows should receive some focus, guidance, or general mission from their sponsors; not a narrow assignment but some general objectives relevant to the problems and goals of the sponsoring organization. It is also recommended that when the Sloan Fellow returns to his organization he be asked: "What do you think we should be doing differently – particularly in view of the general objectives we discussed before you went to MIT?"

The Program: History and Background

The Sloan Fellows Program is a dramatic example of American industry's concern with the planned development of management resources for the long-term growth and health of their organizations.

In 1931, six thoughtful industrialists (Lammot du Pont, F. Wright Fabian, Charles Hayden, John R. Macomber, Alfred P. Sloan, Jr., and Charles A. Stone) each sponsored a young executive to spend one full year at MIT working closely with a first-class faculty and with outstanding industrial and government leaders. An approach to education for management was envisioned which would draw from the best minds the university and industry had to offer.

The young executives were supported in that experiment because of their sponsors' conviction that industry would become more and more complex; that its role in our society would become increasingly more powerful and influential. Industrial leaders, whose decisions would profoundly affect the economic and human resources of our society, would require a greater knowledge and understanding of management and the total environment of the firm. Heavier responsibilities would require new skills and concepts: the manager would have to acquire the life-long commitment to learning characteristic of the scientist and the statesman.

The Program of Study

Whatever success the Program enjoys derives primarily from the contributions of the faculty of the Sloan School of Management and the associated Departments of Economics and Political Science.

The Sloan Fellows profit from the rich cross-fertilization of ideas made possible by close association with one another and with industry and government leaders; but no meaningful and lasting learning experience can take place without a full-time, competent, and devoted faculty.

It is a full and demanding year, calling for extensive reading, critical analysis, and active participation in classes, discussions, and field trips. Men should count on a fifty-five- to sixty-five-hour work week. The course work is arranged to meet the requirements for the degree of Master of Science in Management. Part of the requirement for the degree is the completion of a thesis: individual study and research in a significant management problem or area. Most Sloan Fellows elect to work towards the degree by completing the thesis requirement. Those who do not may select an individual problem of smaller scope and substitute additional course work for the thesis.

The summer term provides the foundation of knowledge on which the fall and spring terms continue to build. It is an introduction to fundamental management and economic problems – methods of analysis and concepts of accountability and control – and it also includes an intensive one-week laboratory in group dynamics.

It was felt that a young executive with some ten years of work experience – carefully selected on the basis of outstanding performance on the job – and with some thirty years of active business life ahead of him would profit most from a twelve-month study of management fundamentals. Such young men would feed into their organizations priceless new resources with which to face the future.

No man saw this concept in more challenging terms than Alfred P. Sloan, Jr., and from 1938 to 1968 the idea of a formal Program, first proposed by the late Professor Erwin H. Schell of MIT (and launched experimentally in 1931), received important financial support from the Alfred P. Sloan Foundation.

The Program has been received enthusiastically by industry and government here and abroad. From the original six men it grew to fifteen, then to thirty; and today each class numbers about forty-five Fellows, representing a wide variety of industrial and non-industrial organizations. Through the years the Program's scope has expanded as a growing faculty has worked with increasing resources to study the concepts and fundamentals of sound management decisions within a complex, rapidly changing social, economic, political, and technological environment. Refinements in management information systems and quantitative analysis are continually introduced; the studies of individual and organizational behavior are increasingly important elements; and government-industry relations, foreign investments, and urban problems receive additional emphasis each year.

Although industry continues to be the main subscriber to the Program, there is an increasing amount of interest in the Program on the part of those who manage health services, educational systems, and departments of municipal, state, and Federal government.

The fall and spring terms provide greater depth of analysis and explorations of allied areas. Most of the work is directly or indirectly concerned with management and administration, but more and more effort is being made to expose the Sloan Fellows to contemporary ideas and trends in the arts and sciences, emphasizing their probable future effect on the management of a wide variety of organizations.

There is a thesis research period available from late December through the first week in February. Most of the regular course work is discontinued during this period. The research time, for those who elect to write a thesis, should be devoted to gathering and processing the original data required to support the thesis.

The spring term provides time for electives which can be chosen from regular and elective subjects offered by MIT, Harvard University, or Wellesley College.

There is a considerable emphasis placed throughout the year on statistical, mathematical problem solving. Most of the concepts underlying those quantitative approaches (including the use of computers) are taught during the summer term and further developed in the fall term.

Principal Areas of Concentration

The Program of Study is drawn primarily from the following areas of concentration. These descriptions will provide the reader with an overview of the main activities and objectives of the faculty and administration.

The course work carried by the Sloan Fellows consists of required courses in the summer and fall terms. During the spring term the Sloan Fellows take at least three electives, at the Sloan School, at other Schools and Departments of MIT, or at Harvard University and Wellesley College.

Finance

Finance is the study of:

- 1
What an organization invests in and how much it invests,
- 2
Where and how funds for investment are obtained, and
- 3
How capital markets work.

Finance is concerned with value: how management's decisions affect the value of the firm to its shareholders and how capital markets serve their main function of directing funds to the most valuable use. Finance is distinguished from other areas of management and economics by a concern with fund flows in the economy and organizations, and by the role of time and uncertainty in financial decisions. That is, investment is basically present sacrifice for future return, with risk almost always present. To finance a venture amounts to persuading individuals or institutions to invest in your organization rather than someone else's. Capital

markets are not only a channel for investible funds: observed security prices provide yardsticks for trading off present dollars vs. future ones and safe dollars vs. risky ones.

The specific problems addressed depend on the point of view taken. For example:

A From the viewpoint of a corporation:

- 1
Is borrowing a good thing?
- 2
What is the risk of a proposed plant or new product and how does it affect the proposal's value?
- 3
Should we acquire another firm or sell ours?
- 4
How can we obtain bank services most cheaply?
- 5
How can we develop a coherent financial plan?

B From the viewpoint of an individual or institutional investor:

- 1 How can portfolios be constructed that maximize the ratio of expected return to risk?
- 2 Can stock prices be predicted?
- 3 Can mutual funds do better in choosing securities than the senator who threw darts at a page of the Wall Street Journal?

C From the viewpoint of public policy:

- 1 How will predominance of large financial institutions affect the efficiency of capital markets?
- 2 Does the present tax system discourage or encourage risk taking?
- 3 What rate of return should public utilities be allowed to earn?
- 4 What determines saving and investment behavior?
- 5 How should non-profit organizations be run from a financial viewpoint?

The finance courses at MIT aim to apply basic economic theory to problems in the area of finance. It is the application of this theory to the study of applied problems of financial managers under conditions of uncertainty that is the core of the finance sequence. It is our belief that a good theoretical background will enable the manager to better analyze, understand, and make rational decisions under uncertainty.

Industrial Relations

Teaching and research in industrial relations at the Sloan School are centered in the Industrial Relations Section, founded in 1937 and one of the leading centers in this field in the United States. The Annual Report of the Section, which describes the program in more detail, is available.

Industrial Relations is a very broad field, including a number of professional concentrations found in industry, government, unions, public service, arbitration, and consulting. Increasingly, the industrial relations function in the private sector is at the vice-presidential level, covering labor relations, personnel administration, manpower planning and development. Personnel or employee relations specialists are found in all levels of government. Staff specialists in labor economics are hired by some unions, although the opportunities here are somewhat less than in industry and government. The tremendous growth in manpower training programs under government auspices has led to the

International Management

International Management, as a field of research, theory, education, and specialization, has to do with generating and controlling international flows of people, information, finance, goods, and services. It differs from the purely domestic in that it involves operating effectively:

- 1 Within and among different national sovereignties,
- 2 Under widely disparate economic conditions,
- 3 With people living within very different value systems,
- 4 As part of an industrial revolution set in the contemporary world, and
- 5 In national markets varying greatly in structure, population, and area.

In fact, the domestic managerial system may be seen merely as a special

case within the much larger international system.

International management may be embedded in a purely private business organization (i.e., the objective of which is internal profit maximization over some time span), in a purely public enterprise (i.e., one in which some external benefit has primacy over internal profit), or in a mixed enterprise (i.e., one in which one or more principals are basically profit-motivated and one or more are concerned largely with external benefits).

A field of study, theory, and practice is also defined by its social purpose. In the international management field, the purpose is simply to enhance the likelihood of international flows of people, information, finance, goods, and services being effected in such manner and volume as to sustain world development and to close the gap in material well being between poor and rich societies. This accomplishment implies reducing the con-

development of a new field which is in short supply: manpower specialists who can serve in planning as well as in operating agencies at federal, state, and local levels, including work with minority groups. Private labor arbitration, in dealing with disputes arising under collective agreements, is limited to a relatively small group of older men; new competent younger men will be needed in the years ahead. Finally, consulting firms need people knowledgeable in industrial relations and personnel administration (management of human resources) as well as in other managerial skills.

While these specialties are important, those aiming for a general management career will also need to understand the problems in dealing with labor relations in organizations, whether directly or as a consequence of pressures from organized labor elsewhere. Public policy issues are also of significance for general management.

Labor and manpower economics draw heavily on the basic discipline of economics; public policy in labor relations is related to law and administration; management of human resources draws on the behavioral sciences as well as other disciplines. The study of comparative systems of industrial relations and human resource development helps to understand any one country's experience better, and is also related to the study of international business.

Members of the Section are actively involved in research, consulting, arbitration, and government service.

Conflict of national interest always inherent in such flows to mutually tolerable levels. In a very broad sense, this need to create mutuality of interest among national groups is the distinguishing factor of international management.

The essential skills required of the international manager, possibly of all managers, are:

- 1 A high level of intercultural empathy,
- 2 Ability to communicate effectively across cultural frontiers,
- 3 The perception of the inner rationality of all social systems,
- 4 Specific insight into the general nature of various national legal, financial, political, economic, and social systems, and

- 5 An understanding of the technical problems involved in the international movement of people, knowledge, goods, and services.

Subjects offered in the international area are designed to impart these skills and include:

- 1 International Business Management I and II
- 2 Intercultural Communication I and II
- 3 International Business Environments (Sections on Europe, Latin America, Japan, North America)
- 4 International Economics and Finance
- 5 Comparative Studies of Organizations

MIPC Managerial Information for Planning and Control

The purpose of the MIPC curriculum is to prepare students in the theory, important concepts and the relevant models for management planning and control of organizations (both long-range and short-run for profit or non-profit organizations), and to develop methods for deriving the information requirements for sustaining such activities. Where relevant empirical theories have been formulated, students are exposed to them and are guided to critically examine the important abstractions which have been made in the field.

A necessary aspect of the curriculum is to equip the student with (a) the knowledge necessary to understand and evaluate the tools available to both the researchers of the management process and the practicing managers, and (b) the foundation from which he can project future developments in the MIPC field and the tools useful in the area.

The emphasis of the MIPC courses is on:

Management Information Systems

The Information Systems faculty is engaged in extending the conceptual base of the field through an active research program coupled with teaching and consulting activities; they bring to this task a wide variety of academic backgrounds and business experience. Our view is that the purpose of an information system is to support the on-going functions and decisions within the organization. This implies a framework which distinguishes between the information system as a source of support for the operational functions of a firm – as exemplified by what has popularly come to be called Management Information Systems – and the information system as a source of the information and information-processing models needed to support management decision-making activities. The latter we term Management Decision Systems.

The emphasis in the teaching program is on providing perspective for the student by developing conceptual models of the information systems field and the design process that is involved if effective computer-based systems are to be built. In addition, the areas of the design evaluation and implementation of information systems in both the MIS and MDS fields are covered. Teaching techniques include lectures and cases, as well as direct exposure to conversational computer systems.

A The processes of:

- 1 Organizational goal formation
- 2 Planning for reaching organizational goals successfully
- 3 Organizational control
- 4 Alternative generation, choice, and managerial decision making
- 5 Developing information systems to support the planning and control functions
- 6 Effecting interfaces between the P&C information system, operational control models, the measurement process, the tools, and the relevant data
- 7 Implementation of requisite information systems for P&C
- 8 Organizational learning, innovation, and standardization

B The topics of:

- 1 Planning theory and models
- 2 Control theory and models
- 3 Information theory
- 4 Theories of organizational goal formation
- 5 Theory and tools for designing efficient organization structures (to allow effective P&C)
- 6 Financial information systems
- 7 Theory of motivation, project controls, and budgetary planning and control
- 8 Computer-based information systems for planning and control
- 9 Theory and practice of accounting measurements and the relationship between accounting, economic, and behavioral theories of the firm

- 10 Problems in the "control" of human beings
- 11 Theory of cybernetics, associative and purposively intelligent information systems
- 12 Alternative enterprise designs (Soviet, Yugoslavian, Scanlon Plan, etc.)
- 13 Use of formal models for decision-making and tools necessary for such
- 14 Empirical studies of information requirements for repetitive decision-making
- 15 Learning theory and its implications for organizations and MIPC

The research of the faculty covers a wide range of topics but takes as its central theme the investigation of the issues involved in supporting the human problem-solving process with relevant information and models. Such decision-support systems involve the use of conversational computer systems and formal models, as well as analysis of human decision-making. This research is being carried out in a wide range of application areas, which currently include: support of the medical diagnostic process, applications in improving the effectiveness of hospital administration, systems to improve the effectiveness of portfolio managers in banking, and experiments with new conversational systems for short-term budgeting, profit planning, cost accounting and the like. Experience from both research and consulting is brought directly into the classroom as part of the lecture material.

Marketing

Marketing is concerned with the problems faced by organizations in their efforts to provide goods and services that satisfy the needs of some group of people. The basic marketing decisions which the management of such organizations must make are:

- 1 What market needs is the organization attempting to satisfy with its output?
- 2 How can the firm's product and/or service offerings be shaped to meet the needs of the clientele it is endeavoring to serve?
- 3 How can the organization communicate its purpose and price and deliver its output to the individuals or groups who may utilize it?

Operations Management

Operations Management is the study of the organization of people and resources for the efficient production of goods and services. Problems in this area include the design and location of production facilities, the design of management information and decision systems to control the facilities, and the organization and motivation of people who operate them. Methods for solving these problems have been developed primarily for industrial organizations, but they are also applicable to the management of city governments, hospitals, and educational institutions.

The approach to the problems emphasizes the construction of models to understand the processes, and when possible, the application of quantitative analysis to improve them. Thus, an understanding of statistical and operations research techniques is important. Emphasis is also placed on the implementation of improved solutions in real organizations from the point of view of the information system in which decision rules may be imbedded and the behavioral effects of the introduction of change.

Traditionally, the study of marketing has been confined to commercial or industrial settings. However, there is a growing recognition that many problems faced by public or non-profit organizations and institutions can be fruitfully examined from a marketing perspective in that they involve some aspect of managing an organization's resources for the purpose of serving and/or influencing a "public." Work is currently underway at the Sloan School from this perspective in such areas as the management of education, family planning, fund raising, and political campaigns.

The marketing curriculum offered at MIT emphasizes the use of behavioral and management science concepts and methods to structure and analyze marketing problems. Behavioral theory and research is especially relevant to developing an understanding of buyers' decision processes and the manner in which buying behavior is modified by personal and mass media influences. Statistical decision theory finds application in connection with problems of setting prices and introducing new products. Decisions involving the allocation of marketing resources such as advertising funds can be improved with the aid of programming methods developed in the operations research field. Various data collection and analysis methodologies such as survey research, scaling techniques, experimental design, and mul-

tivariate statistical procedures are used in research undertaken to measure market response and performance. Problem identification and formulation, the development of models and measurements, and the design of decision and information systems are the core ideas stressed in course offerings. These are designed to provide students with an understanding of how management and social science tools can be used to solve practical marketing problems.

Topics include:

Design of the Physical System

Capacity planning; size, location, time-phasing

Replacement theory

Plant layout

Assembly-line balancing

2
Operating Decision Rules

a
Inventory control

b
Sequencing theory

c
Job-shop scheduling

d
Aggregate scheduling

e
Integrated system control

3
Behavioral Considerations

a
Reward systems

b
Technological determinants of organizational design

c
Information and communication systems

4
Operations Management in Public Systems

a
Systems analysis techniques

b
Cost-effectiveness studies

c
Planning-programming-budgeting systems

Operations Research

Operations Research seeks to build a science and technology of decision-making. The field is concerned with the operational and systems aspects of engineering, scientific, and management problems. For example, operations research deals with traffic control systems rather than the design of cars, with the scheduling of production rather than the technology of machines, and with the collection, allocation, and distribution policies of a blood bank rather than the chemistry of preserving blood. In these and other cases, the operational analysis of a system may influence the technological developments, and vice versa, so that operations research studies are frequently interdisciplinary in character and may arise in widely different fields.

Members of the faculty and students are currently doing research in both theoretical and applied areas. In particular, the fields of probabilistic systems, mathematical programming, queuing, and simulation of operational systems have received continued special attention. Considerable interest is presently focused on the applications of operations research techniques to specific problems arising in diverse operations of government, industry, and non-profit institutions. This has led to studies in the areas of transportation, traffic, education, municipal services, marketing, and scheduling of industrial production.

Organizational Studies

Problems of human organization and interpersonal relations pervade the study of management. Work in organization studies prepares the student to both understand and effectively cope with these human problems. These range from individual motivation and the process of managerial decision making through group behavior to the determination of organizational forms optimally suited to the attainment of particular goals.

Organizational Studies at the Sloan School are grouped into the following four "tracks." The material for the Sloan Fellows Programs is drawn from the following descriptions, which are addressed primarily to the regular graduate programs.

Organization for Innovation

Subjects in this "track," while concerned specifically with the management of the research and development function, should prove valuable to anyone who is interested in managing professionals. The Sloan School of Management has sponsored a major program of research in R&D management for the past five years, and this "track" has been developed directly out of the body of research evidence that has accumulated. The "track" is intended primarily for students with prior organizational experience.

Organizational Development

This "track" provides the student with the necessary behavioral science knowledge and skills to embark on a career in organizational development. This is a relatively new but rapidly growing field (100 of the 500 Fortune Companies now report having a department devoted to organizational development). One very important component of this "track" involves summer work between the first and second year. Students in the "track" will be placed in paid summer jobs in the organizational development departments of major companies where they will receive "on the job training." Cooperating companies have agreed that these jobs will consist of meaningful work combined with an opportunity to learn about the company's total organizational development program.

Organizational Structure and Communication

This "track" presents subjects on the impact of organizational structure on both formal and informal communications and on the relation of information systems to organizational structure and the decision-making process.

Practice and Theory of Management

The subjects offered in this "track" deal with organization structure and process as they relate to the various levels of activity in the organization. The "track" includes subjects which are designed to provide the student with a better understanding of the relationships between organization structure and the environment and goals it must serve. The "track," or parts of it, would be valuable both to students who are preparing for line management positions and to those who wish to become specialists in organizational planning.

System Dynamics

System Dynamics is a study of the processes of change within industrial enterprises and other social systems. It identifies the structure and information flows whereby the present condition of the system interacts through management policies and physical or social processes to determine the rates of change within the system, and studies the way such dynamic structures affect the behavior of a system over time.

Corporate managers and public administrators formulate policy and create organizational structure. The results ultimately appear in the dynamic behavior of their organizations or in society. There may be growth, stagnation, or decay. Either efficiency or waste may prevail. There may be discord or harmony. Corporations and society are complex systems which managers and administrators shape by policy and organization. Unfortunately, complex systems are not easily comprehended and too often prove counter-intuitive when ineffective or

detrimental results arise from policy or organizational changes introduced with high expectations.

Any system whose input depends in some way on its own previous output is said to be a feedback system. Information about the results of past action comes back to influence future action. It is this closed-loop structure of mutual causal processes that provides the most interesting and important, as well as the most difficult, problem in our understanding of social systems. In these systems, we find many instances of circular chains of causation which we frequently label with such titles as "vicious cycle" or "band wagon effect." Examples would include the poverty-apathy cycle, the explosive tendencies of inflation, the arms race, and progressive drug addiction. This type of process must exist in any system where there is self-sustained growth or decay. There are other circular chains of causation which resist change rather than create it. An example of this might be a case

Thesis

The thesis represents an opportunity, for those who elect to work toward the Master's degree, to penetrate more deeply into one or more fields under faculty guidance, to gain the experience of a major research project, and to undertake the task of organizing and writing an extensive and meaningful report of findings and conclusions.

The E.P. Brooks Master's Thesis Prize is awarded each year for the best Master's thesis in the Sloan School of Management. Over the years the Brooks Prize has been won by the following students:

1960

"Industrial Relations in the Economic Development of Argentina"
Tomas R. Fillol

1961

"A Study of the Accountability of Corporate Management in Companies with Dispersed Ownership"
Paul O. Gaddis
(Sloan Fellow
Westinghouse Electric Corporation)

1962

"Solution of the Traveling Salesman Problem by Dynamic Programming on the Hypercube"
Romulo H. Gonzalez

1963

"A Gaming Approach to Management Education"
Charles H. Greer

1964

"United States Direct Investment in France: An Investigation of the French Charges"
Allan W. Johnstone
(Sloan Fellow — Berol Corporation)

where migration into an area increases population, which creates a housing shortage and increases the unemployment rate, which in turn increase out-migration and thereby decrease population. This type of process tends to force the system toward some equilibrium and to respond negatively to any disturbances that would otherwise tend to push the system away from that equilibrium state. Complex feedback systems are made up of many loops of these two types which are continually interacting to produce many different forms of system behavior.

System dynamics began fifteen years ago when new developments in computers and enterprise simulation, new comprehension of decision making, and greater understanding of feedback control systems made feasible the study of complex corporate and social systems. Initially called "Industrial Dynamics," the approach was used to examine how policies and information flow controlled the interactions of

orders, materials, money, people, and equipment in a company to create its dynamic behavior. Successful applications have improved control and reduced waste in raw material inventories, reduced fluctuations in production rate with significant improvements in productivity, rationalized research and development budgets, redesigned product lines to improve profits and growth, and increased growth and profits through a new marketing strategy and resource acquisition policy.

More recently, social and economic systems have been studied using the concepts of industrial dynamics. The economic growth of a region, the control of drug abuse, the growth, stagnation, and revival of urban areas, the fluctuations in commodity prices, and the dynamics of world ecology are all being examined.

1965
"A Heuristic Approach to Alternate Routing in a Job Shop"
Francis J. Russo

1966
"Consistency and Optimality in Subjective Portfolio Selection by Committee"
Robert J. Martel

1967
"CASH ALPHA - A Linear Programming Approach to Banking Relations"
Robert F. Calman
(Sloan Fellow
International Utilities Corporation)

1968
"Innovation in the Ethical Pharmaceutical Industry"
William E. Wade, Jr.

1969
"Urban Minority Business Development: The Problem of Resource Channeling Through Intermediary Institutions"
Dean R. Ericson

1970
"Decision Model and Analysis of Corporate Utilization of By-Product R&D"
George W. Morgenthaler
(Sloan Fellow
Martin Marietta Corporation)

*1971
"Foreign Financial Investment by United States Banks: The Role of the Bank Holding Company"
Richard A. Freytag
(Sloan Fellow
First National City Bank)

and

"Catalytic Colleagues in a Government R&D Organization"
Robert L. Swain
(Sloan Fellow
National Aeronautics and Space Administration)

*Double award

The Program for Sloan Fellows, 1971-1972

These tables depict the program for
the 1971-72 Sloan Fellows and the
time planned for each subject.

Fall Term September 13 to December 17

(14 weeks)	Hours
Marketing	36
Economics	36
Fiscal and Monetary Policy	
International Management	
Finance	36
System Dynamics	12
Managerial Information for Planning and Control	18
Operations Management	36
Labor-Management Relations	36
Organizational Psychology	36
Management Seminars including evenings	50
Seminars in the Arts and Sciences	15

Financial Management
Field Trip: New York City
Thesis Research
The Study of Urban Problems;
Thesis Workshops
One full week

Summer Term
June 21 to September 3

(11 weeks)	Hours
Economics/Finance Price Theory National Income Money and Banking	41
Managerial Information for Planning and Control	54
Quantitative Methods plus tutorial sessions and computer applications	41
Structure of American Law	36
Group Dynamics Special exercises and orientation One full week	
Introduction to Management Information and Decision Systems Three day review	

Spring Term
February 3 to June 2

(17 weeks)	Hours
Corporate Strategy	36
Management Seminars including evenings	50
Seminars in the Arts and Sciences	15
Electives (minimum)	108
U.S. Government Field Trip: Washington, D.C.	
Foreign Management Field Trip	
Thesis Completion	

Seminars: Local Government and Urban Problems

A significant amount of time is being allotted to the study of urban problems.

There is a considerable degree of interest these days in problems related to the cities. The faculty of the Sloan School of Management is involved in an increased amount of research having to do with the resolution of urban-related problems.

The Sloan Fellows Program has responded to that increased interest by scheduling a short series of frank, intensive, off-the-record discussion sessions during September with men who are deeply involved in problems related to cities either as managers, elected officials or advisers.

For instance, the 1970-1971 Sloan Fellows were privileged to meet with a number of men and women prominent in government and urban activities on the local scene:

Seminars: Management and the Arts and Sciences

The range of scientific, engineering, and artistic talent within MIT and in the Boston area is as wide as will be found anywhere in the nation. Drawing upon these resources, this part of the Program offers the unique opportunity of learning from internationally renowned experts the most recent developments in their fields and the way in which they believe these developments may affect industry and our society in the future. The emphasis will be on the trends and future developments likely to alter the types of problems and demands faced by tomorrow's managers.

The men and women who contributed their knowledge and talents to this part of the Program in 1970-71 were:

Barbara Ackermann
City Counselor
City of Cambridge

John F. Collins
Former Mayor of Boston
Consulting Professor of Urban Affairs
Massachusetts Institute of Technology

Francis H. Duehay
Member of the Cambridge School
Committee
Dean of Admissions and Studies, Graduate
School of Education, Harvard University

Ellen Feingold
Inter-governmental Relations Specialist
Community Development Office
City of Cambridge

Justin Gray
Justin Gray and Associates
Cambridge, Massachusetts

Robert F.X. Hart
Executive Director
Cambridge Community Services

Dr. James B. Hartgering
Commissioner, Health, Hospitals
and Welfare
City of Cambridge

Walter L. Milne
Assistant to the Chairman of the
Corporation
Massachusetts Institute of Technology

Mary B. Newman
Cambridge Representative to the
Massachusetts Legislature
Commonwealth of Massachusetts

James F. Reagan
Chief of Police
City of Cambridge

O. Robert Simha
Planning Officer
Massachusetts Institute of Technology

James L. Sullivan
Former City Manager
City of Cambridge

Boston Symphony Orchestra
"Open Rehearsal"

Patricia Carbine
Editorial Director
McCall's Magazine

John F. Collins
Former Mayor of Boston
Consulting Professor of Urban Affairs
Massachusetts Institute of Technology

Donald M. DeHart
Executive Vice President
New England Aquarium

Maurice A. Donahue
President of the Senate
Commonwealth of Massachusetts

C. Stark Draper
Institute Professor
President, Charles Stark Draper Laboratory
Massachusetts Institute of Technology

Donald R. Dwight
Lieutenant Governor
Commonwealth of Massachusetts

Roger Fisher
Professor of Law
Harvard University

Jay W. Forrester
Professor of Management
Massachusetts Institute of Technology

Lester Maddox
Lieutenant Governor
State of Georgia

Maureen M. Morgan
Organist-Choir Director
Pleasantville, New York

J. Daniel Nyhart
Dean for Student Affairs
Massachusetts Institute of Technology

Richard H. O'Connell
Executive Vice-President and
General Manager
The Boston Red Sox Baseball Club

Paul Rahilly
Artist
Boston, Massachusetts

Paul A. Samuelson
Institute Professor; Professor of Economics
Massachusetts Institute of Technology

Michael Sand
Michael Sand + Associates

Paul Szep
Editorial Cartoonist
The Boston Globe

Glen L. Urban
Associate Professor of Management
Massachusetts Institute of Technology

Cora T. Walker
Attorney-at-Law
Harlem River Consumers Cooperative, Inc.
New York, New York

Activities outside the Classroom: Management Policy in Practice – Field Work and Observation

An important and integral part of the curriculum is the opportunity offered Sloan Fellows to correlate classroom work with field work and observation throughout the entire year. Almost all contacts with industry, government, and other senior executive officers consist of informal question and answer sessions.

No trips, visits, or meetings are scheduled without carefully preparing the general lines of inquiry to be pursued and the relevant issues and major areas to be covered. All trips, visits, and meetings are also reviewed in debriefing sessions after the event.

Sloan Fellows develop unusual skill, tact, and judgment during the year. Their questions become more and more pertinent and searching. They learn what to look for and what points to pursue. Answers are often exceedingly frank and straightforward – partly perhaps because the policy of the Program is to treat all information gathered at such sessions as “off-the-record” and confidential.

Under the general heading of field work and observation are the following: Management Seminars at MIT and municipal government studies in the Boston area, the Financial Management Field Trip to New York City, the U.S. Government Field Trip to Washington, D.C., and the Foreign Management Field Trip to Western Europe.

Management Seminars

Each week throughout the fall and spring terms the Sloan Fellows meet in small groups with senior business executives and other outstanding men in positions of responsibility and leadership. The men meet for a two-hour informal question and answer discussion followed by dinner. The Sloan Fellows study the man, his organization, and his industry before meeting with him. Meetings are later reviewed carefully.

The questions raised in these meetings tend to be qualitative rather than quantitative. The seminar speaker is asked to open the meeting with ten to fifteen minutes on any subject of interest to him which has anything to do with management. The rest of the two-hour session, plus the dinner, is devoted to questions which attempt to draw out the speaker's way of thinking about problems and projects; his scale of values and priorities;

his attitudes towards his own people, his industry, and his competitors; his assessment of the past, and his outlook on the future. In this way the Sloan Fellows receive the benefit of experience from men who are outstanding in their field.

Men who led management seminars during 1970-71 were:

George M. Bunker
President
Martin Marietta Corporation

Eugene A. Cafiero
Group Vice President
Chrysler Corporation

James R. Dempsey
Vice President, Group Executive
AVCO Corporation

L.J. Evans
President
Grumman Aerospace Corporation

James B. Fisk
President
Bell Laboratories

Donald N. Frey
President
General Cable Corporation

W.H. Krome George
President
Aluminum Company of America

William C. Goggin
President
Dow Corning Corporation

Eli Goldston
President
Eastern Gas and Fuel Associates

Bruce Harriman
Vice President and General Manager
New England Telephone Company

Robert P. Henderson
Associate Group Vice President
Honeywell Information Systems Inc.

Sheldon L. Hirsch
Director, Executive Development
and Recruiting
Litton Industries

D. Brainerd Holmes
Executive Vice President
Raytheon Company

Frederick G. Kenber
Chairman and Managing Director
GLO N.V. (Unilever)

Oscar A. Lundin
Executive Vice President
General Motors Corporation

John G. McLean
President
Continental Oil Company

Ezra Merrill
President
I.P. Hood & Sons

Ross F. Miller
Vice President and General Manager
Northrop Electronics Division
Northrop Corporation

Lee L. Morgan
Executive Vice President
Caterpillar Tractor Co.

Brian J. Morrow
Vice President
Esso Chemical Company, Inc.

Garlan Morse
President
GTE Sylvania Incorporated

Victor H. Pomper
President
H.H. Scott, Inc.

William F. Pounds
Dean, Sloan School of Management
Massachusetts Institute of Technology

Allen E. Puckett
Executive Vice President and
Assistant General Manager
Hughes Aircraft Company

George Putnam, Jr.
President
The Putnam Management Company, Inc.

H. Robert Sharbaugh
President
Sun Oil Company

Harry J. Sheerin
Executive Vice President
Kimberly-Clark Corporation

Drs. D. Joe da Silva
Chairman of the Policy Board
B.W. Berenschot N.V.

Roger P. Sonnabend
Chairman of the Board and
Chief Executive Officer
Sonesta International Hotels Corporation

Edward G. Uhl
President
Fairchild Hiller Corporation

Herman H. Waggershauer
Vice-President and General Manager
Kodak Apparatus Division
Eastman Kodak Company

The Financial Management Field Trip: New York City

The emphasis of the week-long New York field trip is on financial activities and on corporate control at the board and top management level.

Last year's trip included discussions with:

Ned B. Ball
President
Merrill Lynch, Pierce, Fenner & Smith Inc.

Harding F. Bancroft
Executive Vice President
The New York Times

M.M. Brisco
President
Standard Oil Company (New Jersey)

Donald C. Cook
President
American Electric Power Company

Thomas C. Dillon
President
Batten, Barton, Durstine & Osborn, Inc.

Gianluigi Gabetti
President
Olivetti Underwood Corporation

Edwin H. Gott
Chairman, Board of Directors
United States Steel Corporation

Jean-Jacque Graisse
Research and Liaison Officer
United Nations Development Program

Guy Gresford
Director for Science and Technology
Department of Economic and Social Affairs
United Nations

Edward Hamilton
Director of the Budget
City of New York

George P. Jenkins
Vice-Chairman of the Board
Metropolitan Life Insurance Company

Gilbert E. Jones
Chairman of the Board
IBM World Trade Corporation

R. Heath Larry
Vice Chairman of the Board
United States Steel Corporation

The United States Government Field Trip: Washington, D.C.

An understanding of the role of the Federal government is essential to management today. The annual visit to Washington, D.C., offers each Sloan Fellow an opportunity to meet officials of the Federal government and to discuss with them a wide range of industry-government relationships.

In Washington, D.C., the 1970-71 Sloan Fellows met with the following senior officials:

John Banzhaf III
Associate Professor of Law
National Law Center
George Washington University

Joseph Blatchford
Director
The Peace Corps

The Rt. Hon. Lord Cromer, M.B.E.
The British Ambassador to the
United States

Nathaniel Goldfinger
Director of Research
AFL-CIO

Robert P. Griffin
United States Senator (R) from Michigan

Jack O. Horton
Deputy Assistant Secretary
Department of the Interior

Sidney L. Jones
Assistant to the Chairman
The Council of Economic Advisors

Edward M. Kennedy
United States Senator (D)
from Massachusetts

Willard McCormick
Chairman of the Board
Cresap, McCormick and Paget Inc.

Eugene Miller
Senior Vice President
New York Stock Exchange

Frank R. Milliken
President
Kennecott Copper Corporation

Ellmore C. Patterson
President
Morgan Guaranty Trust Company
of New York

David Rockefeller
Chairman of the Board
Chase Manhattan Bank, N.A.

H.I. Romnes
Chairman of the Board and President
American Telephone and
Telegraph Company

Robert W. Sarnoff
President
RCA Corporation

Sidney Schoeffler
Manager - Long Range Plan
General Electric Company

J. Walter Severinghaus
Partner
Skidmore, Owings and Merrill

Richard R. Shinn
President
Metropolitan Life Insurance Company

Charles A. Siegfried
Vice-Chairman of the Board
Metropolitan Life Insurance Company

T. Richard Spoor
Senior Vice President
United States Trust Company of New York

Harold J. Szold
Partner
Lehman Brothers

Donald A. Wells
Executive Vice President
Batten, Barton, Durstine & Osborn, Inc.

Joseph T. West
Executive Vice President and Director
Western Electric Company, Inc.

Walter B. Wriston
Chairman
First National City Bank

Richard G. Kleindienst
Deputy Attorney General
Department of Justice

George M. Low
Deputy Administrator
National Aeronautics and
Space Administration

Charles E. Lucet
The Ambassador of France
to the United States

William B. Macomber, Jr.
Deputy Under Secretary of State
for Administration
Department of State

Thurgood Marshall
Associate Justice
Supreme Court of the United States

Lawrence F. O'Brien
Chairman
Democratic National Committee

George P. Shultz
Director
Office of Management and Budget

Larry Silberman
Under Secretary of Labor
Department of Labor

John A. Volpe
The Secretary of Transportation
Department of Transportation

John W. Warner
Under Secretary of the Navy
Department of Defense

Lawrence K. White
Executive Director-Comptroller
Central Intelligence Agency

The Foreign Management Field Trip

The Sloan Fellows met informally and off-the-record with senior government and industry leaders of Western Europe during the period May 11 to May 31, in London, Amsterdam, Rotterdam, Haarlem, The Hague, Frankfurt, and Paris.

During the free weekend, in the middle of the trip, forty of the Fellows visited Moscow and Leningrad, at their own expense, with the Director of the Program.

A number of meetings and a plant tour were organized by industry, government, and university officials. Discussions centered on recent economic changes in the country that might increase productivity. A number of frank, off-the-cuff meetings were devoted to the differences between the U.S.S.R. and the U.S. economic, political, and industrial systems.

The purpose of the trip is to examine, at first hand, the opportunities and the competition American business may expect from Western Europe's unprecedented industrial development. The trip also serves as a destereotyping process. The men tend to take with them a number of preconceived notions about other countries, their people, ways of doing business, etc., which very often do not meet the test of first-hand observation. Both the plus and the minus that they observe abroad help the Sloan Fellows to see their own country and their own business in a more meaningful perspective.

Prior to and during this trip the Fellows prepared carefully for meetings with those listed below, and after the trip they held debriefing, review sessions at MIT.

Great Britain

F.A.O.G. Bennett
Deputy Chairman and Chief Executive
Whitbread & Company

Sir Raymond Brookes
Chairman
Guest, Keen & Nettlefolds Limited

Alastair Burnet
Editor
The Economist

Alastair F. Down
Deputy Chairman
British Petroleum Company Limited

Sir John Eden
Minister of Industry

Rodney Leach
Director in charge of the
International Division
N.M. Rothschild & Sons

David Orr
Vice Chairman
Unilever Limited

France

Serge Antoine
Attache au Cabinet du Ministre
de l'Environnement

Andre Bettencourt
le Ministre
Ministere du Plan et de l'Amenagement
du Territoire

Guy Brana
President Directeur General
du Groupe Claret
Thomson-Houston Hotchkiss-Brandt

Robert A. Brand
Ministre charge des Affaires Economiques
United States Embassy

G. Guemas
Directeur General
Havas Consell

Hubert Jacqz
Directeur de marketing
Societe Francaise des Petroles B.P.

Jean Predsell
Directeur General
Centre de Recherches et d'Etudes
des Chefs d'Entreprise

M. Rauscher de la Barthe
President Directeur General
Ste Placoplatre

P. Vuillaume
President Directeur General
Kodak-Pathé

The Netherlands

Drs. S.C. Bakkenist
Member, Board of Directors
AKZO N.V.
and President, V.N.O.
(Dutch Employers Union)

Her Royal Highness Princess Beatrix
of the Netherlands
and His Royal Highness Prince Claus

Dr. Pieter A. Blaisse
Professor of International Law
Technical Highschool at Delft

A.W.J. Caron
Vice President
Unilever N.V.

H. ter Heide
President
N.V.V. (Netherlands Federation
of Trade Unions)

The Honorable Willem Thomassen
Mayor of Rotterdam

Dr. Jan Tinbergen
Professor of Development Planning
Nederlandse Economische Hogeschool

James D. Slater
Chairman
Slater, Walker Securities Limited

The Lord Strathallmond, CMG, OBE, TD
Managing Director
British Petroleum Company Limited

The Rt. Hon. A. Wedgwood Benn, P.C., M.P.
House of Commons

Dr. E.G. Woodroffe
Chairman
Unilever Limited

West Germany

Dr. h.c. Hermann J. Abs
Chairman of the Supervisory Board
Deutsche Bank AG

Dr. Rudolf Bossle
Marketing Director
Deutsche Nestle

Peter Carlberg
Vice President and Director of Marketing
H.K. McCann Company mbH

A.A. Cunningham
Managing Director
Adam Opel AG

Dr. Alfred Herrhausen
Member of the Board of Managers
Deutsche Bank AG

Rene Keller
Vice President and Account Director
H.K. McCann Company mbH

Johannes Neckermann
Vice President of Distribution
Neckermann Versand KG a.A.

Josef Neckermann
President
Neckermann Versand KG a.A.

Karl G. Ratjen
Member of the Board of Managers
Metallgesellschaft AG

Roel van Duijn
Member
City Council, Amsterdam

Ir. Leonard Wijers
Director
Town Districts Department
Government Planning Service

Monsignor Drs. Theodore Zwartkruis
Bishop of Haarlem

U.S.S.R.

Giorgi Arbatov
Director
Institute of the United States of America
Academy of Sciences of the USSR

Vladislav S. Dadayan
Professor of Economic Sciences
Central Economic-Mathematical Institute
Academy of Sciences of the USSR

Jermen M. Gvishiani
Deputy Chairman
State Committee of USSR Council of
Ministers for Science and Technology

Vladimir A. Kouzin
Chief of Division
Foreign Relations Department
State Committee of USSR Council of
Ministers for Science and Technology

Dmitry N. Pronsky
Member of the Committee
Director of Foreign Relations Department
State Committee of USSR Council of
Ministers for Science and Technology

Alekzander D. Smirnov
Professor of Economic Sciences
Chief of Laboratory
Central Economic-Mathematical Institute
Academy of Sciences of the USSR

Visit to Manometer plant, Moscow
Visit to Shcherbakovsky textile factory,
Moscow
Hydrofoil exhibit, Leningrad

Financial Arrangements

The Program fee, payable to MIT, is \$7,600* for the period June 16, 1972 to June 1, 1973. The sponsoring organization will normally pay the Program fee, continue the Fellow's usual compensation, and provide for some necessary extra living and moving costs. In addition, there are three field trips that are a required part of the Program: New York City (one week); Washington, D.C. (one week); and the Foreign Management Field Trip (two and one-half weeks). Most organizations reimburse their Sloan Fellows for all or for a substantial part of those travel expenses. The trips are organized on a group basis, making possible a number of substantially reduced group rates for travel and accommodations.

The personal and family costs incident to the Fellows' being in Greater Boston for participation in the Program will vary among the men according to their normal earnings, home locations, and personal circumstances. It is considered reasonable that a Sloan Fellow's personal budget for the year in Greater Boston include:

*includes required MIT Medical Department fee

is normal living costs,

the extra costs involved in moving
his family and in living for a year in
the Boston area rather than in his
home community, and

books and other study materials, to
cost of about \$400.

Most of the Fellows rent houses in the suburbs of Boston, where there are fine public schools. Living costs within the Boston metropolitan area are similar to those in other large cities, but rentals for furnished houses or apartments may be higher than for the Fellow's regular home. Suitable, though modest, furnished accommodations in the suburban areas have averaged \$400 per month (for a married couple with two children), not including heat and utilities. The man coming from a distance, from a small town, from company housing facilities, or from a warm climate may experience an increase in living costs.

General uniformity of policy in matters of financial arrangements is advantageous to the men and their companies as well as to the Program. For this reason the Director of the Program will be pleased to discuss with the Fellow and his sponsor the various costs and means of meeting them.

Application

Application forms for the Sloan Program are available from:

Peter P. Gil, Associate Dean
Teaching Programs
Room E52-456
Alfred P. Sloan School of Management
Massachusetts Institute of Technology
50 Memorial Drive
Cambridge, Massachusetts 02139

Requirements

Each applicant should submit to Dean Gil:

- 1 Evidence of nomination by his employer,
- 2 A completed application,
- 3 An employment history, and
- 4 A statement of objectives.

In addition he should have other material sent directly to the Director

- 5 Official transcripts of previous college work, and
- 6 Four letters of reference as specified in the application form.

Deadline

Applications to be considered must be postmarked not later than February 1, 1972. Selection of Sloan Fellows to participate in the Sloan Program will be made on a competitive basis by a committee appointed by the Massachusetts Institute of Technology for that purpose. The committee will consider evidence from applications, supporting data, correspondence, and finally, interviews with a selected group of candidates. Announcements of the selection will be made by March 25 in order to allow successful candidates adequate time for preparation before the start of the program in mid-June.

The Director of the Program will be pleased to discuss, informally and confidentially, tentative or exploratory applications for admission submitted by any individual or organization.

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The Faculty

Alfred P. Sloan School of Management

William F. Pounds, Ph.D.
Dean; Professor of Management

Abraham J. Siegel, Ph.D.
Associate Dean;
Professor of Industrial Relations

Peter P. Gil, Ph.D.
Associate Dean for Teaching Programs;
Senior Lecturer

Thomas M. Hill, A.B., M.B.A.
Associate Dean for Administration;
Professor of Management

Robert Ilfeld, S.B., M.S., S.M.
Associate Director for Executive Programs

Eleanor Chin, B.A.
Administrative Assistant

Sidney S. Alexander, Ph.D.
Professor of Management

Edward H. Bowman, Ph.D.
Professor of Management

David Durand, Ph.D.
Professor of Management

Jay W. Forrester, D. Eng.
Professor of Management

Mason Haire, Ph.D.
Professor of Organizational Psychology
and Management;
Alfred P. Sloan Professor of Management

Daniel M. Holland, Ph.D.
Professor of Finance

Gordon M. Kaufman, D.B.A.
Professor of Operations Research and
Management

Edwin Kuh, Ph.D.
Professor of Finance

John D.C. Little, Ph.D.
Professor of Operations Research and
Management; Director of Operations
Research Center

Paul W. MacAvoy, Ph.D.
Professor of Management

Donald G. Marquis, Ph.D.
Professor of Organizational Psychology
and Management

Franco Modigliani, D. Jur.,
D. Soc. Sci., LL.D.
Institute Professor; Professor of Finance

Leo B. Moore, S.M.
Professor of Management

Charles A. Myers, Ph.D.
Sloan Fellows Professor of Management;
Director of Industrial Relations Section

Edward B. Roberts, Ph.D.
Professor of Management

Edgar H. Schein, Ph.D.
Professor of Organizational Psychology
and Management

Lester C. Thurow, Ph.D.
Professor of Management

Carroll L. Wilson, Sc.D.
Professor of Management

Zenon S. Zannetos, Ph.D.
Professor of Management

John F. Collins, Ph.D., D.C.L.
Professor of Urban Affairs (Consulting)

Douglass V. Brown, Ph.D.
Alfred P. Sloan Professor of Management,
Emeritus; Senior Lecturer

Thomas J. Allen, Jr., Ph.D.
Associate Professor of Organizational
Psychology and Management

Wallace B.S. Crowston, Ph.D.
Associate Professor of Management

Jay R. Galbraith, D.B.A.
Associate Professor of Management

George A. Gorry, Jr., Ph.D.
Associate Professor of Management

Warren H. Hausman, Ph.D.
Associate Professor of Management

David A. Kolb, Ph.D.
Associate Professor of Organizational
Psychology and Management

Stewart C. Myers, Ph.D.
Associate Professor of Finance

David N. Ness, S.B., B.A.
Associate Professor of Management

J. Daniel Nyhart, A.B., L.L.B.
Associate Professor of Management

Gerald A. Pogue, Ph.D.
Associate Professor of Finance

John F. Rockart, Ph.D.
Associate Professor of Management

Irwin M. Rubin, Ph.D.
Associate Professor of Organizational
Psychology and Management

Michael S. Scott Morton, D.B.A.
Associate Professor of Management

Jeremy F. Shapiro, Ph.D.
Associate Professor of Operations Research
and Management

Alvin J. Silk, Ph.D.
Associate Professor of Management

Glen L. Urban, Ph.D.
Associate Professor of Management

John H. Peters, M.D.
Visiting Associate Professor
of Management

James E. Annable, Jr., Ph.D.
Assistant Professor of Industrial Relations

George F. Farris, Ph.D.
Assistant Professor of Organizational
Psychology and Management

John Henize, B.A.
Assistant Professor of Management

Malcolm M. Jones, Ph.D.
Assistant Professor of Management

Paul R. Kleindorfer, Ph.D.
Assistant Professor of Operations Research
and Management

Milton L. Lavin, Ph.D.
Assistant Professor of Organizational
Psychology and Management

Thomas L. Magnanti, Ph.D.
Assistant Professor of
Operations Research and Management

William A. Martin, Ph.D.
Assistant Professor of Management

Dennis L. Meadows, Ph.D.
Assistant Professor of Management

Robert C. Merton, Ph.D.
Assistant Professor of Finance

D. Quinn Mills, Ph.D.
Assistant Professor of Industrial Relations

Philippe A. Naert, Ph.D.
Assistant Professor of Management

Alan L. Patz, Ph.D.
Assistant Professor of Organizational
Psychology and Management

Robert S. Pindyck, Ph.D.
Assistant Professor of Finance

Myron S. Scholes, Ph.D.
Assistant Professor of Finance

Murat R. Sertel, Ph.D.
Assistant Professor of Management

Roy E. Welsch, Ph.D.
Assistant Professor of Operations Research
and Management

Jarrod W. Wilcox, Ph.D.
Assistant Professor of Management

Arnold E. Amstutz, Ph.D.
Senior Lecturer

Lotte L. Bailyn, Ph.D.
Senior Lecturer and Research Associate

Richard Beckhard, A.B.
Senior Lecturer

Gordon F. Bloom, Ph.D.
Senior Lecturer

Herbert F. Goodwin, S.B.
Senior Lecturer

Stanley M. Jacks, A.M., LL.B.
Senior Lecturer;
Adviser to Prelaw Students

Richard S. Morse, D. Eng., D. Sc.
Senior Lecturer

Richard T. Murphy, Jr., A.B., B.S., LL.B.
Senior Lecturer

Richard D. Robinson, Ph.D.
Senior Lecturer

Douwe B. Yntema, Ph.D.
Senior Lecturer

Thomas P. Gerrity, Jr., Ph.D.
Lecturer

James B. Hartgering, M.D.
Lecturer

Ronald W. O'Connor, M.D.
Senior Research Associate

Leon S. White, Ph.D.
Senior Research Associate

D. Anthony Butterfield, M.A.
Research Associate

George T. Dixon, B.S., S.M.
Research Associate

Alexander L. Pugh, III, E.E.
Research Associate

Leonard Smollen, M.E.
Research Associate

Department of Economics

Robert L. Bishop, Ph.D.
Professor of Economics;
Dean of the School of Humanities and
Social Science

E. Cary Brown, Ph.D.
Professor of Economics;
Head of the Department

Morris A. Adelman, Ph.D.
Professor of Economics

Jagdish Bhagwati, Ph.D.
Professor of Economics

Peter A. Diamond, Ph.D.
Professor of Economics

Evsey D. Domar, Ph.D.
Professor of Economics

Richard S. Eckaus, Ph.D.
Professor of Economics

Franklin M. Fisher, Ph.D.
Professor of Economics

Harold A. Freeman, S.B.
Professor of Statistics

Everett E. Hagen, Ph.D.
Professor of Economics; Director of the
Center for International Studies

Charles P. Kindleberger, Ph.D., D.H.C.
Professor of Economics

Paul N. Rosenstein-Rodan, Dr. Rer. Pol.
Professor of Economics, Emeritus;
Senior Lecturer

Jerome Rothenberg, Ph.D.
Professor of Economics

Paul A. Samuelson, Ph.D., LL.D.,
D.Litt., Sc.D.
Institute Professor; Professor of Economics

Robert M. Solow, Ph.D., LL.D.
Professor of Economics

Peter Temin, Ph.D.
Professor of Economic History

Sloan Fellows 1971-72

R. Antony H. Aitken
Management Auditor, Management
Audit Department
Hayward Tyler & Company Ltd.;
Oxford, B.A. '66

Stanley F. Albrecht
Program Manager, Production Operations
Martin Marietta Corporation;
New York University, B.A.E. '53

Fredrik E. Anderson
Group Leader, Directorate of
Advanced Systems Concepts
Aeronautical Systems Division,
Wright-Patterson Air Force Base;
Iowa State University, B.S. '55
United States Air Force Institute
of Technology, M.S. '64

Kofi A. Annan
Chief, Personnel Section
United Nations Economic
Commission for Africa;
Macalester College, B.A. '61

Robert J. Baker, Jr.
Manager, Pacific Northwest Operations
The Battelle Development Corporation;
University of Illinois, B.S. '60
M.S. '63, Ph.D. '64

Charles F. Baxter
AEC Site Representative
United States Atomic Energy Commission;
Polytechnic Institute of Brooklyn,
B.Ch.E. '59

James L. Blakeley
Chief, Management Analysis Branch
Center for Disease Control, Department of
Health, Education and Welfare;
San Diego State College, A.B. '64

Charles S. Blankstein
Assistant Director for Economic
Development
Agency for International Development;
University of North Carolina, A.B. '57
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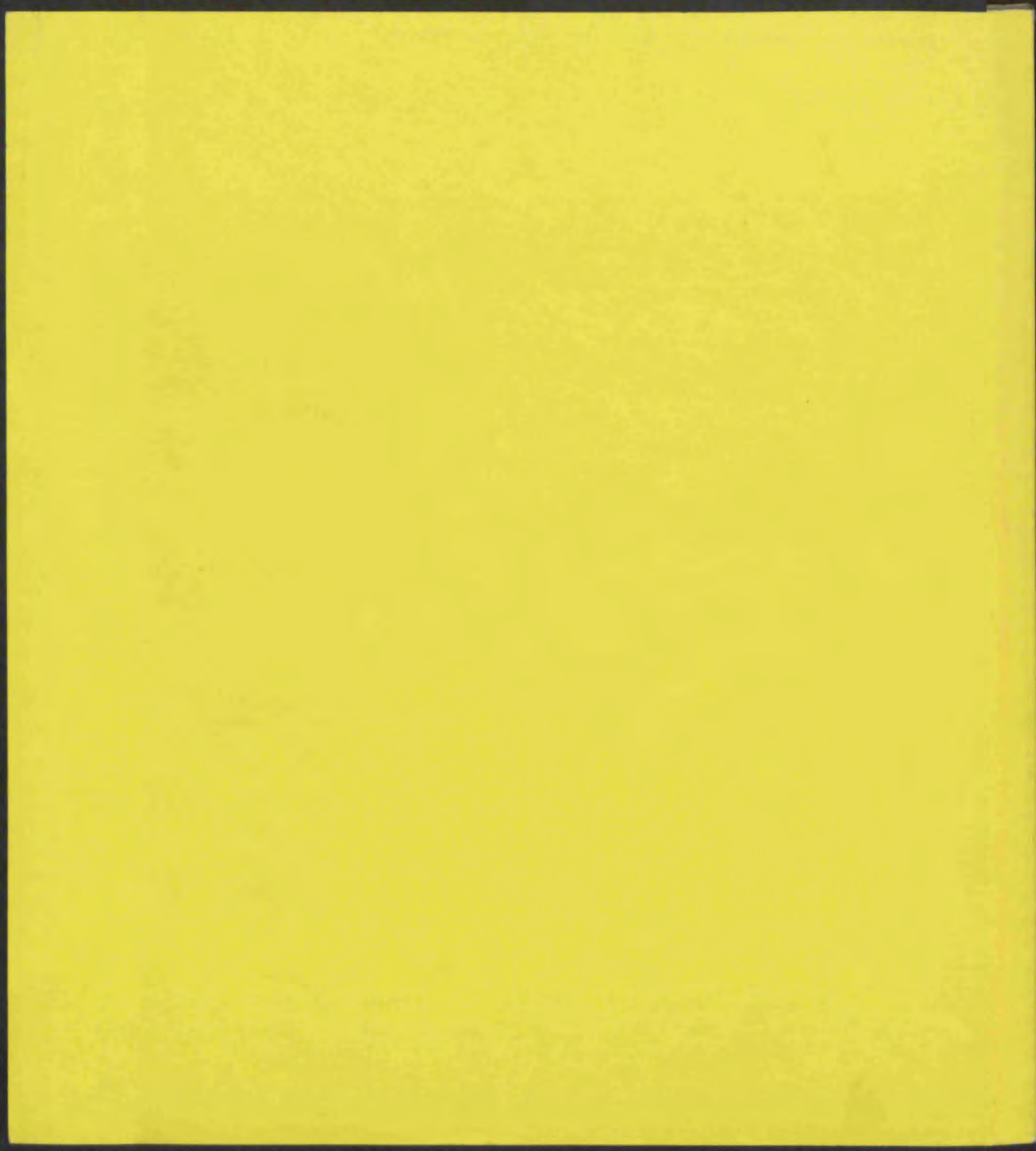
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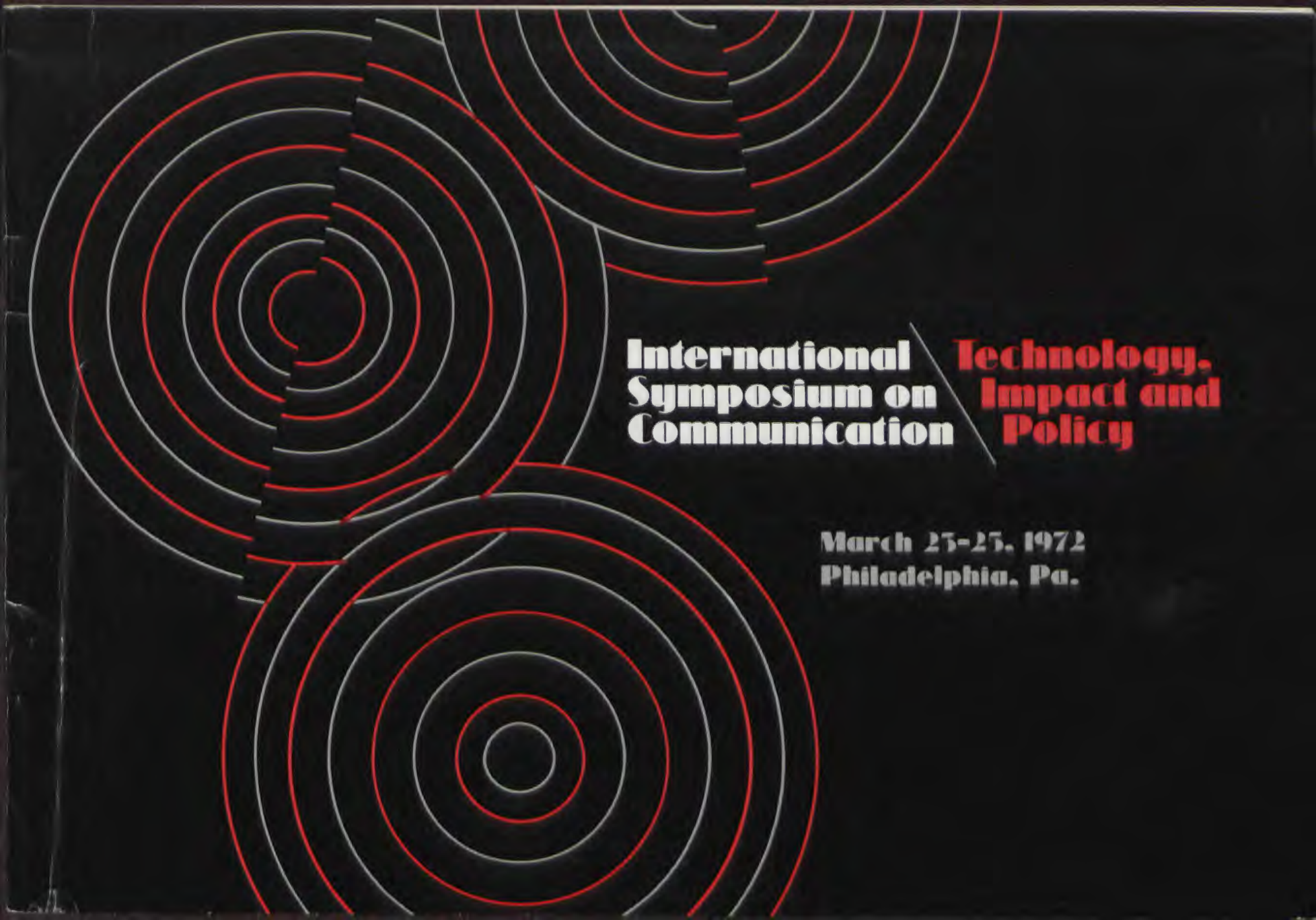
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**International
Symposium on
Communication**

**Technology,
Impact and
Policy**

**March 23-25, 1972
Philadelphia, Pa.**





**What are the social and cultural implications of developments in communication technology?
What measures can test and what policies should guide such developments?
How can we anticipate and shape — rather than only absorb — their human consequences?**

These are the main issues to which this International Symposium directs attention. The purposes were explained and the call for contributions issued by Conference Chairman George Gerbner in the spring of 1971. He said:

Man is the symbol-using animal. Of all the environments he creates (and pollutes), the climate of symbols and messages is the most crucial to his humanity.

The means that shape our symbol systems are on the threshold of a new industrial revolution. The force that propels this technological take-off fuses such elements as the "wired nation" of broad-band communications; the encapsulated message-modules of cassettes; the storage, retrieval, switching, analytical, and symbol-transforming capacities of computers; and the intimate immediacy of a "global village" of strangers created through communication satellites. The new fusion is imminent at a time when we are attempting to grasp the full consequences of the first communications revolution which — from printing to television — has transformed the quality of life and the life of the mind beyond all historical precedents of cultural change.

There is probably no area of significant social policy in which far-reaching decisions have been made with as little systematic, reliable, cumulative, and comparative information about alternatives and their human impact as in the sphere of communication systems and technologies. Concerns voiced about long-range cultural consequences are often lost in utopian myths, in the ritual din of the

cult of technology, or in nostalgia for an idyllic past that never was. We believe that it is premature to celebrate, too late to regret, and too dangerous to ignore what has been set in motion. We must learn how to navigate — and channel — the cultural currents of our own making, and to steer a course based on reason and evidence toward goals of our own choosing. Those involved in communications service, scholarship, research and techniques have a special responsibility for calling a halt to the policy of drifting with the tide and to the process of deciding by default.

The Annenberg School of Communications, a graduate school at the University of Pennsylvania, and the Communications Workers of America, a labor union, join forces to fulfill their responsibility for directing attention and bringing relevant knowledge to bear upon key issues of our field, and, we believe, of our time.

A year later, on March 23, 24, and 25, 1972, some forty technical experts, business and government executives, social scientists, and communications scholars and researchers from eight countries will assemble in Philadelphia to discuss these issues with an invited group of about 350 participants. General sessions will focus attention on key developments. Six panels will meet in working sessions to explore the issues from the technological, institutional, educational, urban, and international points of view, and to probe prospects of continuing surveillance.

THE SYMPOSIUM AT A GLANCE

I. TIME, SPACE, AND PACE: DEFINING DIMENSIONS OF CHANGE

If we are to grasp the technological potentials, it is necessary to define communication systems in terms salient to basic dimensions of change. Jona Cohn (Motorola), Arthur D. Hall (ASC), Col. William F. Luebbert (West Point), James T. Martin (IBM), Wilbur L. Pritchard and Pier L. Bargellini (COMSAT), John W. Wentworth (RCA), George R. White (Xerox).

II. INSTITUTIONAL POWERS AND CONTROLS: WHO DECIDES WHAT FOR WHOM?

Technology serves and also alters social structure and power. Consequences for government, industry, labor, and the public. Richard Gabel (Commerce Department), Nicholas Johnson (FCC), Dieter Kimbel (OECD, Paris), Louis B. Knecht (CWA), William H. Melody (ASC), Ralph Lee Smith (Mitre Corporation).

III. ACCULTURATION AND EDUCATION: GROWING UP IN CHANGING CULTURES

From technology to society to consciousness. As the symbolic environment changes, so does the meaning of becoming a full-fledged human. Jerome S. Bruner (Harvard) and David R. Olson (Toronto), George Gerbner (ASC), Larry P. Gross (ASC), Bruce R. Joyce (Columbia), Edward L. Palmer (CTW), Oleg K. Tikhomirov (Moscow).

IV. THE INTIMATE STRANGERS: LIVING TOGETHER IN NEW COMMUNITIES

Emerging communication patterns alter definitions of community. The contest for participation and power shifts to the new frontier. Oliver Gray, Bertram M. Gross, Charles Klein (Hunter College), Peter Cowan (London), Richard L. Meier (Berkeley), Theodora Sklover (Open Channel, N.Y. City), Melvin M. Webber (Berkeley).

V. WORLD SYSTEMS: INTEGRATING OR DISINTEGRATING?

Global communication systems are both forces of cohesion and instruments of penetration beyond the dreams of any prophet or emperor. Prospects and alternatives in light of different ideologies and national experiences. Arnold W. Frutkin (NASA), Elihu Katz (Israel), Armand Mattelart (Chile), Stefan Nedzynski (Switzerland), Kaarle Nordenstreng and Tapio Varis (Finland), Herbert I. Schiller (San Diego), Dallas W. Smythe (Canada).

VI. WHICH WAY THE FUTURE? MEASURES, TRENDS, AND INDICATORS

Critical research, new forms of social accounting, and a demystification of the cultural process are needed to track and guide the impact of new developments in communication technology. James W. Carey and John J. Quirk (Illinois), Forrest P. Chisman (Markle Foundation), George Gerbner (ASC), Michael Gurevitch (Israel) and Philip Elliot (England), James D. Halloran (England), Edwin B. Parker (Stanford), Alex Reid (England), Glenn E. Watts (CWA).

ATTENDANCE...

In order to make a fruitful exchange of views and information possible, the number of participants will be limited. Advance registration by invitation will be necessary. The registration fee is \$100. A number of partial registration grants are available for faculty and students, reducing the registration fee to \$25 and \$10, respectively. To request registration or further information, complete the attached request form, check the appropriate box or boxes, and mail immediately.

PAPERS AND PUBLICATIONS...

Conference papers will be available in advance and at the Symposium at the cost of duplication, while the supply lasts. All those returning the attached request form will be notified of the availability and price of papers, and of their subsequent publication.

REGISTRATION AND FURTHER INFORMATION...

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- ... save time getting in line for registration, check Box 1 on the attached request form and mail completed form immediately in your own envelope, enclosing \$100 registration check made out to The Annenberg School of Communications. You will receive registration materials or, if places are no longer available, your check will be returned.
- ... receive registration information, check Box 2 and return completed request form. If registration is still open and places are available, you will be billed for the registration fee of \$100.
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Information about schedules, program, accommodations, and registration will be sent to all those invited to register for the international symposium.

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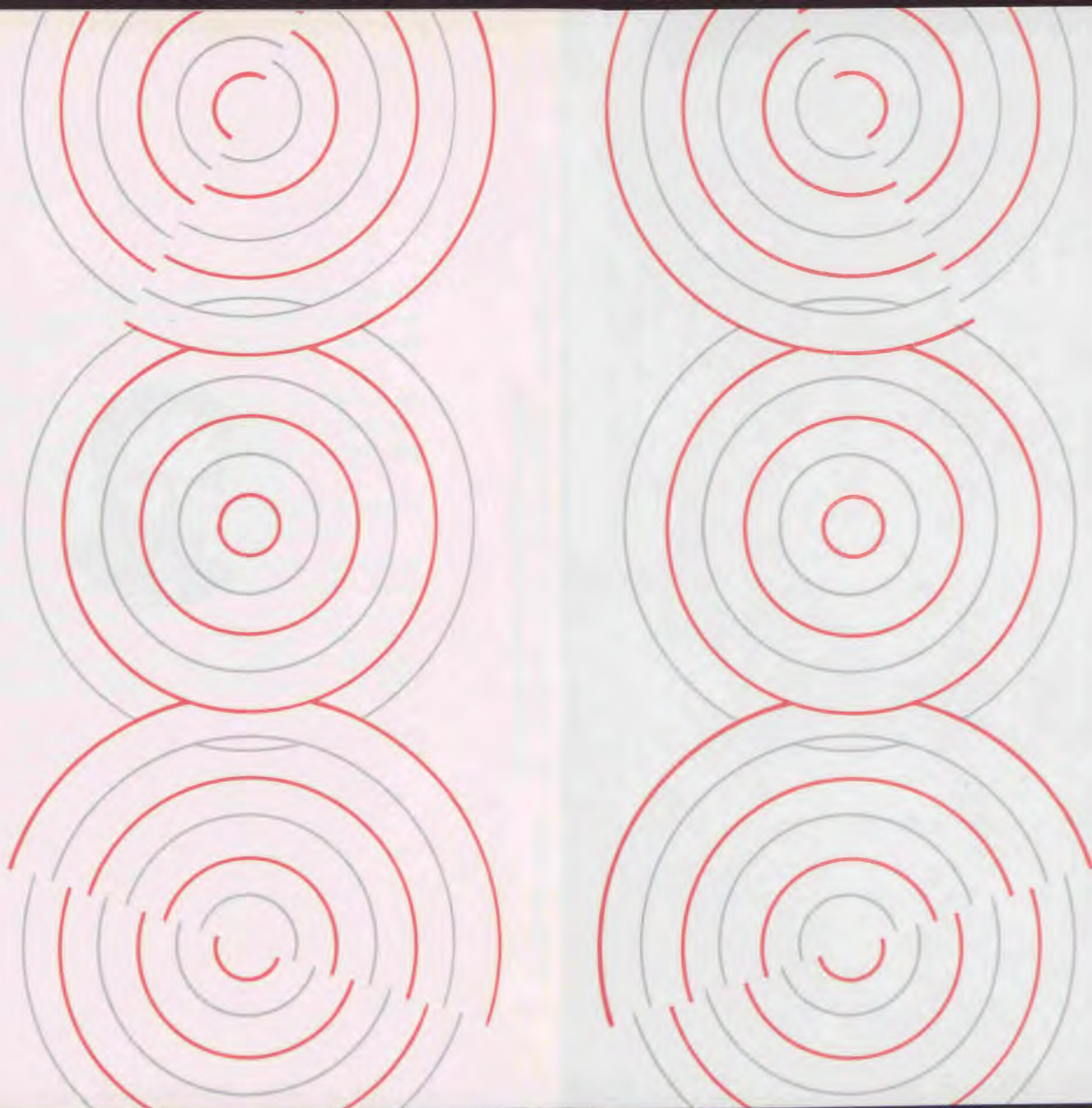
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Information about schedules, program, accommodations, and registration will be sent to all those invited to register for the international symposium.





I. TIME, SPACE, AND PACE: DEFINING DIMENSIONS OF CHANGE

Chairman: Arthur D. Hall, III, President, Arthur D. Hall, Inc.

JONA COHN, Director of Research and Engineering, Motorola, Inc., Communications Division. Chairman, Project Coordinating Group, Land Mobile Advisory Commission to the FCC.

Communicating with the Man on the Move. This paper considers the spatial variable: are the communications mobile or fixed in space? The emphasis is on frequency spectrum issues, growth of mobile applications, and new functional capabilities such as automatic vehicle locators, mobile teleprinters, "wireless" telephones, and mobile computer access.

ARTHUR D. HALL, III, President, Arthur D. Hall, Inc., specializing in telecommunications systems engineering and management sciences; visiting member of the Annenberg School faculty; developer of the Picturephone for Bell Laboratories, and author of *A Methodology for Systems Engineering* (1962).

Switched Services. Connections upon demand between unique pairs of end points. The past, present, and future of the newest of these services: Picturephone. Potential relationships to the "wired nation" concept, interactive computer terminals, and the graphic arts.

COL. WILLIAM F. LUEBBERT, Director, Instruction Support Division, United States Military Academy, West Point. A Stanford Ph.D., Col. Luebbert is in charge of instructional technology and computer systems.

Educational Communications and Instructional Technology. Integration of new resources into ongoing programs in higher education. A multi-image media presentation.

JAMES T. MARTIN, IBM Systems Research Institute; author of *Design of Man-Computer Dialogue* (1972).

Communications and the Computer. A discussion of the role of computers in systems involving human communication.

WILBUR L. PRITCHARD, Assistant Vice-President of Communications Satellite Corporation, Director of COMSAT Laboratories, formerly Chairman, National Academy of Sciences Study Panel on Broadcast Satellites, and

PIER L. BARGELLINI, Senior Staff Scientist, COMSAT Laboratories; formerly on the faculty of the Moore School of Engineering, University of Pennsylvania.

Communications Satellites. Traffic growth patterns and foreseeable advances in satellite technology. The future role of broadcast satellites, and their economic and socio-political implications.

JOHN W. WENTWORTH, Director, Educational Development Engineering, RCA, author of *Color Television Engineering* (1955), and a pioneer in the use of television for industrial training.

Broadcasting Technologies. A background for review of current status and future prospects of message dissemination from the few to the many. Recent developments that will shape the future of broadcasting services.

GEORGE R. WHITE, Vice-President and Associate Manager, Research and Engineering Division, Xerox Corporation.

Graphics Systems. The role and future of graphics systems as elements of information systems often surprise those whose understanding of information systems has developed largely around electronic communication and computation. This paper discusses the history and value of graphics systems, and presents plausible projections based on technological advances.

II. INSTITUTIONAL POWERS AND CONTROLS: WHO DECIDES WHAT FOR WHOM?

Chairman: William H. Melody, The Annenberg School of Communications



RICHARD GABEL, Senior Analyst, Policy Support Division, Office of Telecommunications, U.S. Department of Commerce; former Executive Fellow of the Brookings Institution; author of *Development of Separation Principles in the Telephone Industry* (1967).

Telecommunications Interconnection: Wherefrom and Witherto. The structure of the domestic telecommunications industry has been heavily influenced by policies of refusal of interconnection among systems. The arguments used to justify such policies have shifted from economic and market exclusion reasons to technical grounds. The economic and social consequences of increasing consumer service options are now shrouded in engineering terms. But new stimuli have been created. What kind of implementation should be expected?

NICHOLAS JOHNSON, Commissioner, Federal Communications Commission; author of *How to Talk Back to Your Television Set* (1970).

Broadcasting Institutions and Public Policy. In recent years, serious problems inherent in the traditional relationships between governmental and business institutions in broadcasting have been recognized. Attempts to respond to these problems have been heavily conditioned by the established institutional relationships. How will changing technology alter these relationships? Will our institutions be more or less responsive to the public interests?

DIETER KIMBEL, Research Director, Panel on Policy Issues of Computer-Telecommunications Interaction, Organization for Economic Cooperation and Development, Paris, France; formerly consultant to Battelle Institute (Geneva).

An Assessment of the Computer/Telecommunications Complex in Europe, Japan, and North America. New technology is blurring traditional distinctions between telecommunications and computer processing. The direction of application of the technologies will depend significantly upon how institutional barriers are overcome in the development of national and international policies.

LOUIS B. KNECHT, Executive Vice-President, Communications Workers of America.

Changing Technology: Consequences for Labor. New technology changes the relationships between labor institutions and the industries and governments with which they bargain. Problems range from changing skills, retraining and adjustment, to the development and coordination of international labor programs and policies.

WILLIAM H. MELODY, The Annenberg School of Communications; formerly Senior Economist, Federal Communications Commission; co-author of *An Evaluation of Pricing Practices and Policies in Domestic Communications* (1969).

The Role of Advocacy in Public Policy Planning. The path of development of communications industries depends heavily upon public policies to regulate and/or to promote particular activities and institutional relationships. The potential of the new technologies is prompting a shift in the focus of attention from traditional, *ad hoc* decision-making to public policy planning. Serious deficiencies in the advocacy process within existing governmental institutions are being recognized. In the development of public policy plans for the introduction of new technologies, what role does advocacy play?

RALPH LEE SMITH, writer and researcher, Mitre Corporation; formerly Senior Research Associate, Center for Policy Research; author of *The Wired Nation* (1972).

CATV: Impact Upon Existing Technologies and Institutions. Cable technology threatens not only the technological base of the established broadcast and telecommunications common carrier industries, but also the fundamental premises upon which traditional regulatory policies have been founded. The formulation of policy direction has been in process for a long time at various levels of government. How are our institutions responding? What are the long term consequences?

III. ACCULTURATION AND EDUCATION: GROWING UP IN CHANGING CULTURES

Chairman: Larry P. Gross, The Annenberg School of Communications



JEROME S. BRUNER, Harvard University, whose latest book is *The Relevance of Education* (1971), and

DAVID R. OLSON, Professor of Applied Psychology, The Ontario Institute for Studies in Education, Toronto, Canada; author of *Cognitive Development* (1971).

Learning from Experience and Learning from Media. Can widely divergent communication processes result in the development of the same knowledge? This paper considers evidence for the equivalence of different forms of instruction and postulates the invariants of information exchange that underly the surface characteristics of the divergent modes.

GEORGE GERBNER, Professor and Dean, The Annenberg School of Communications, University of Pennsylvania.

Schools and the Mass Media. Studies of relationships between these communications institutions of modern society show problems inherent in the mix of private and public interests governing cultural life. New developments in communication technology may further increase the imbalance in the allocation of cultural resources and intensify the stresses affecting schools and other folk-institutions in post-industrial society.

LARRY P. GROSS, Assistant Professor, The Annenberg School of Communications, University of Pennsylvania.

Modes of Communication and the Acquisition of Skills and Competencies. The general requirement for the acquisition of various physical, intellectual, social and even artistic skills and competencies assumes the ability to receive, process and communicate in a variety of perceptual, cognitive and informational modes. This paper examines the educational methods and contexts suitable to these modes, and discusses their implications in light of current political and institutional factors.

BRUCE R. JOYCE, Professor of Education, Teachers College, Columbia University, whose latest book is *Models of Teaching* (1971).

Media Support for Alternative Learning Models. Models for learning are related to media forms, including the teacher as an interactive agent. A matrix presents various types of relationships, and it is applied to the problem of creating schools composed of multiple-mode learning environments.

EDWARD L. PALMER, Vice President for Research, Children's Television Workshop.

Television in the Education of Children. The often unintended socializing influences and side-effects of television instruction pose a special challenge for research evaluating explicit and a priori educational objectives. This paper discusses specific methods and applications of research in the creation of such television materials.

OLEG KONSTANTINOVICH TIKHOMIROV, Professor of Psychology, Moscow University, U.S.S.R.; author of *The Structure of Problem-Solving Activity* (1963).

Man and Computer; the Impact of Computer Technology on the Development of Psychological Processes. Computers do not substitute for human thinking, memory, and communications but they do change these processes. Such transformations lead to the appearance of new forms of human creative activity. These are interpreted as part of the historical development of mental processes in which computers, and the social conditions of their use, play an instrumental part.

IV. THE INTIMATE STRANGERS: LIVING TOGETHER IN NEW COMMUNITIES

Chairman: Bertram M. Gross, Distinguished Professor of Urban Affairs and Planning,
Hunter College, New York City



PETER COWAN, Professor of Planning Studies; Director, Joint Unit of Planning Research, University College, London; author of *Developing Patterns of Urbanisation* (1970).

Moving Information Instead of Mass: Communication vs. Transportation. A shift from the movement of goods to that of people and ideas is part and parcel of current changes in the function of the city. What are the consequences and implications for transport, work, travel, and leisure?

OLIVER GRAY, Department of Urban Affairs, Hunter College.

Minorities and the New Media: Exclusion and Access. The restrictive and coercive practices of the past have virtually excluded ethnic minorities from broadcast station ownership and programming. At this juncture of urbanization, technological development, and citizen awareness, a new set of issues, opportunities, and strategies must be considered. This paper will survey and analyze these in light of recent efforts, current plans, and policy alternatives.

MARK L. HINSHAW, Department of Urban Affairs, Hunter College.

Wiring Megalopolis. Cable can provide a host of services in a decentralized fashion, and facilitate the two-way flow of information. This has the potential of radically altering the form and substance of urban life and of social and political control. Alternative developments are considered in the light of criteria for humane and democratic applications.

CHARLES KLEIN, Department of Urban Affairs, Hunter College.

Cable Television: The New Urban Battleground. Group conflict surrounding cable television in New York foreshadows similar battles in all urban communities. This paper examines the stakes, the goals, and the contestants, and discusses alternative courses of action.

RICHARD L. MEIER, Professor of Environmental Design, University of California, Berkeley; author of *A Communications Theory and Urban Growth* (1962), *Developmental Planning* (1965).

Urban Ecostructure in a Cybernetic Age: Responses to Communications Stress. Pressed to their limits for receiving and transmitting messages, people indicate feelings of stress when they must make decisions affecting others. If organizations fail to keep up with the demand for their service, they transmit stress to those working at the interface with clients. This paper will offer city planning proposals for coping with such stress.

THEODORA SKLOVER, Founder and Director of Open Channel, New York City, consultant to the Sloan Commission on Cable Communication.

Innovative Programming for Cable Television. Initial investigation indicates that the technological challenge is not being met by a similar thrust in programming. This paper assesses several possibilities for innovative programming, including community access, city channels, open channels, TelePrompTer and Sterling plans, educational and other interests, and the plans of the artistic community of New York.

MELVIN M. WEBBER, Director, Institute of Urban and Regional Development, University of California, Berkeley; editor of *Explorations Into Urban Structure* (1963).

Urbanization and Communications. Communication technologies reduce the traditional advantages of proximity and thus the dependence on cities. A new kind of urban society may be emerging, a service society of spatially dispersed but close-knit communities, polities, and economies, held together by lines of communications. Will this lead to novel governmental systems that are non-territorial in structure, sectoral in interest, and pluralistic only in the aggregate? A rather different world is explored in this paper.

V. WORLD SYSTEMS: INTEGRATING OR DISINTEGRATING?

Chairman: Herbert I. Schiller, Communications Program, Third College,
University of California, San Diego



ARNOLD W. FRUTKIN, Assistant Administrator for International Affairs, National Aeronautics and Space Administration.

Space Communications and the Developing Countries. There have been remarkable instances of growth in INTELSAT traffic where direct links have been established. The future potentials are shaped by restrictions of GNP, cost, and infrastructure, and by the political requirements for domestic programs and national cohesion. Experiments in India and Brazil are examined for implications both for domestic systems and for relationships with other countries.

ELIHU KATZ, Director, The Communications Institute, Hebrew University, Jerusalem; senior staff member of the Israel Institute for Applied Research; head of the task force that introduced television into Israel.

Television as a Horseless Carriage. The uncritically accepted assumption that television should broadcast non-stop, just as radio did, is an important example of the "horseless carriage" complex which has shaped the character of the medium. It may be a key to diagnosing some ills of television, especially in small and new nations.

ARMAND MATTELART, Research Professor in the Center of Studies on National Reality, Catholic University; Head of the Department of Research and Evaluation of New Publications, State Publishing House, Santiago, Chile.

Mass Media in the Socialist Revolution: the Experience of Chile. This paper reviews the role of internal and external dependencies in the Chilean realities of national bourgeoisie, imperialism, and mercantile structure. The significance of cultural imports is examined, including a case study of the message of Donald Duck for the Third World. Emphasis is on practical problems and lessons of socialist reorganization and the ideological foundations for changing from vertical mass communications to broad participation by the organized masses.

STEFAN NEDZYNSKI, General Secretary, Postal, Telegraph, and Telephone International, Geneva, Switzerland.

Social Inequalities in the Access to Communication Facilities and Their Implications for Working Class Organizations. This paper deals with the problem of participation in the control of communication facilities, and of the protection of economic and cultural interests, under conditions of social class inequality in developing and industrialized countries.

KAARLE NORDENSTRENG, Professor of Communications, Director, Institute of Journalism and Mass Communications, University of Tampere, Finland; former Head of Research, Finnish Broadcasting Company; and

TAPIO VARIS, Lecturer, Institute of Journalism and Mass Communications, University of Tampere, Finland.

The Non-Homogeneity of the National State and the International Flow of Communications. Different groups in society use communications in different ways and for different purposes. Historical developments in communications can be seen as dividing society into informed and uninformed (or misinformed) classes. The flow of media content across national boundaries is equally subject to stratified controls and powers. Present facts and future alternatives are considered.

HERBERT I. SCHILLER, Professor of Communications, Coordinator of the Communications Program, Third College, University of California, San Diego; author of *Mass Communications and American Empire* (1969).

Authentic National Development Versus the Free Flow of Information. Given the uneven levels of development, what means do the still impoverished nations possess to utilize new communication technologies for their own needs? This paper considers the harsh choices imposed on developing states and reviews some of the paths that may be taken.

DALLAS W. SMYTHE, Professor and Chairman, Department of Social Studies and the Communications Program, University of Saskatchewan, Regina, Canada.

Mass Communications and the Cultural Revolution: the Experience of China. Current trends in light of a recent visit to study mass media in China. Special attention is directed to the communication priorities and requirements deemed necessary for a transformation in popular consciousness.

VI. WHICH WAY THE FUTURE? MEASURES, TRENDS, AND INDICATORS

Chairman: George Gerbner, The Annenberg School of Communications



JAMES W. CAREY, Director, Institute of Communications Research, University of Illinois; Research Professor of Communications, and

JOHN J. QUIRK, writer, co-author (with James W. Carey) of *The Mythos of the Electronic Revolution* (1970).

The History of the Future. The myths of the past condition our thinking about the future. This paper illuminates some trends in our images of communication technology and of the future in general in order to make a contribution to the demystification of the cultural process.

FORREST P. CHISMAN, Executive Assistant, The Markle Foundation; formerly Political Science, Toronto, Harvard, Oxford Universities.

Politics and the New Mass Communications. Many people feel that the new developments in mass communications which provide faster, cheaper, and more diverse service will facilitate democratic political processes. This is not necessarily true. This paper examines dangers as well as benefits and discusses some criteria for the new developments.

GEORGE GERBNER, Professor and Dean, The Annenberg School of Communications, University of Pennsylvania.

Technology, Society, and Symbols: the Need for Cultural Indicators. Technological change alters social relationships and consciousness in ways that may be functional to the groups promoting and implementing it. What about those absorbing it? This paper argues the need and presents a scheme for indicators of trends in the mass-produced symbolic environment. The purpose is to guide policy-making in the cultural sphere.

MICHAEL GUREVITCH, Lecturer in Sociology and Communication, The Hebrew University, Jerusalem, Israel, and

Research Fellow, Centre for Mass Communication Research, University of Leicester, England.

The Future of Media Professions. The consequences of new communication technologies are considered in relation to professions and professionalization in mass communications, especially "electronic journalism." This paper examines possible changes in structure, practices, and occupational ideology.

JAMES D. HALLORAN, Professor and Director, Centre for Mass Communication Research, University of Leicester, England; author of *Demonstrations and Communication: A Case Study* (1970).

What Do We Need to Know? Research approaches, policies, and structures are examined in light of the inadequacy of information in the field of communications. The emphasis is on the nature and organization of research needed to come to grips with the social and political consequences of new communication technologies.

EDWIN B. PARKER, Professor of Communication, Stanford University, co-editor of the *Handbook of Communication* (1972).

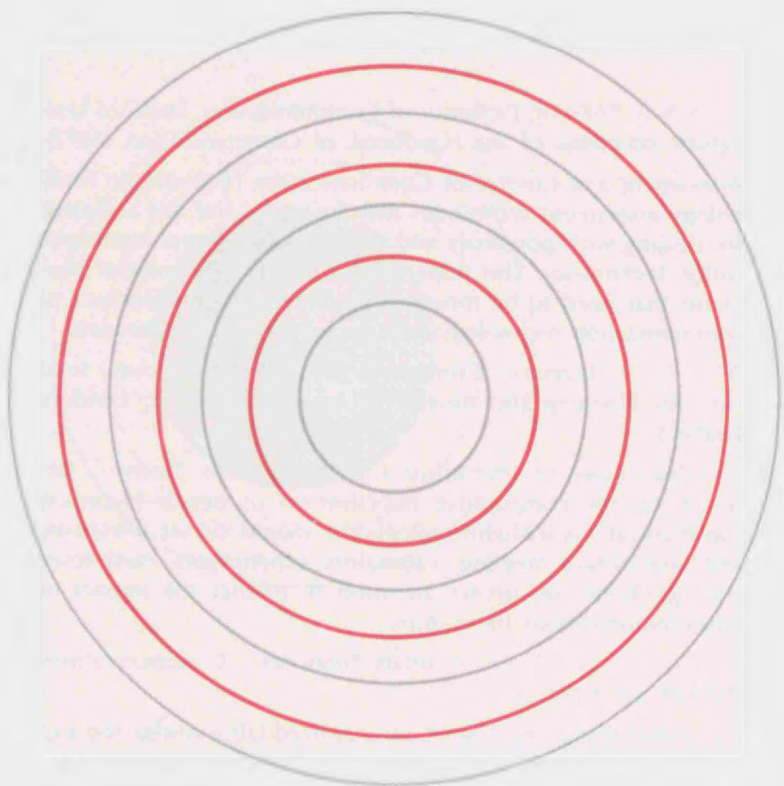
Assessment and Control of Communication Technology. Technology assessment techniques may be useful but not sufficient for dealing with potentials and implications of new communication technology. This paper discusses the experimental programs that need to be mounted to direct the development of communication technology into socially desirable channels.

ALEX REID, Director, Communications Studies Group, Joint Unit for Planning and Research, University College, London, England.

The Evaluation of Interactive Communications Systems. Research on the comparative effectiveness of person-to-person communications including telephone, closed circuit television, and face-to-face meeting. Laboratory experiments, field tests, and questionnaire surveys are used to predict the impact of telecommunications innovation.

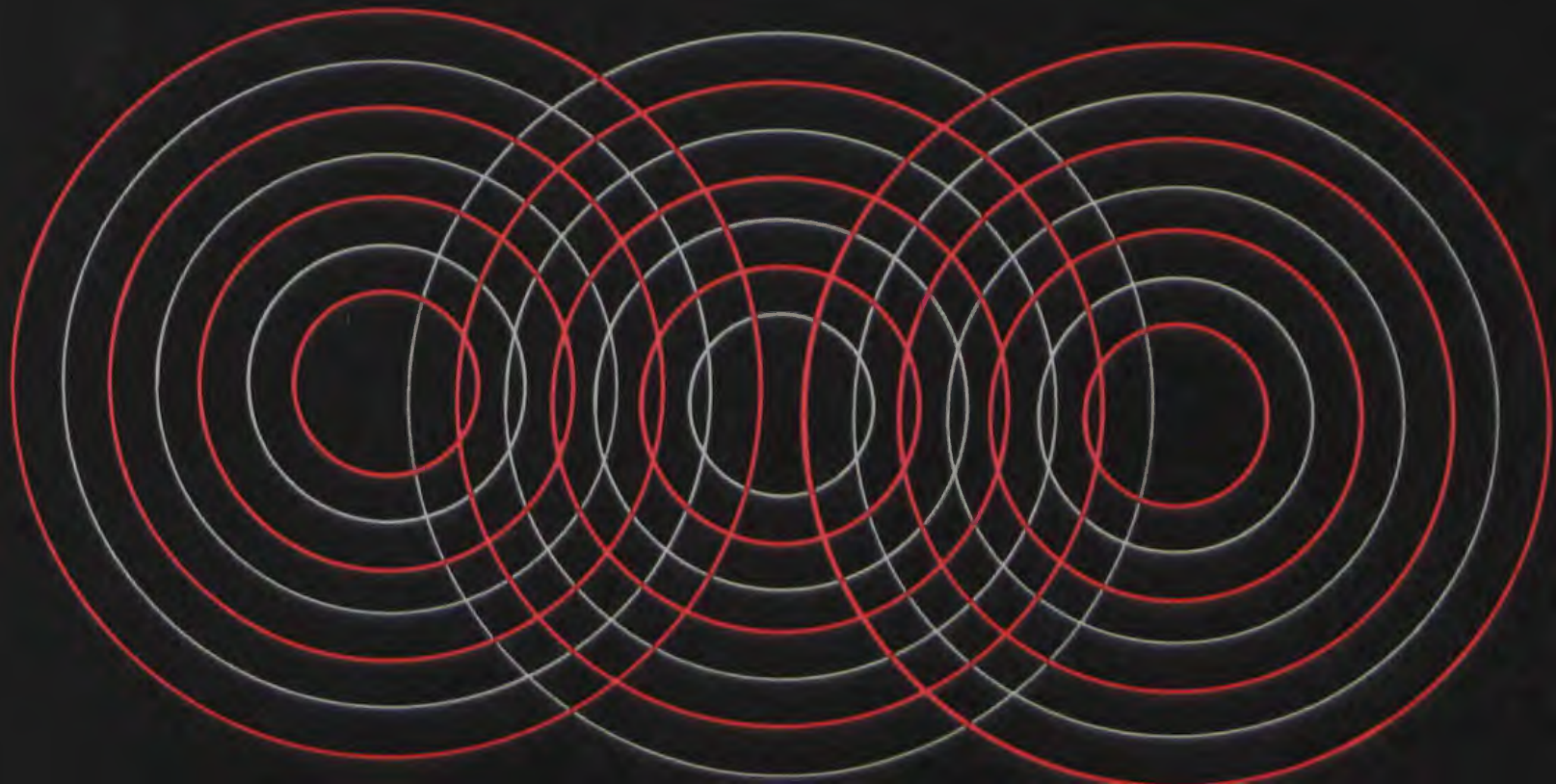
GLENN E. WATTS, Secretary-Treasurer, Communications Workers of America.

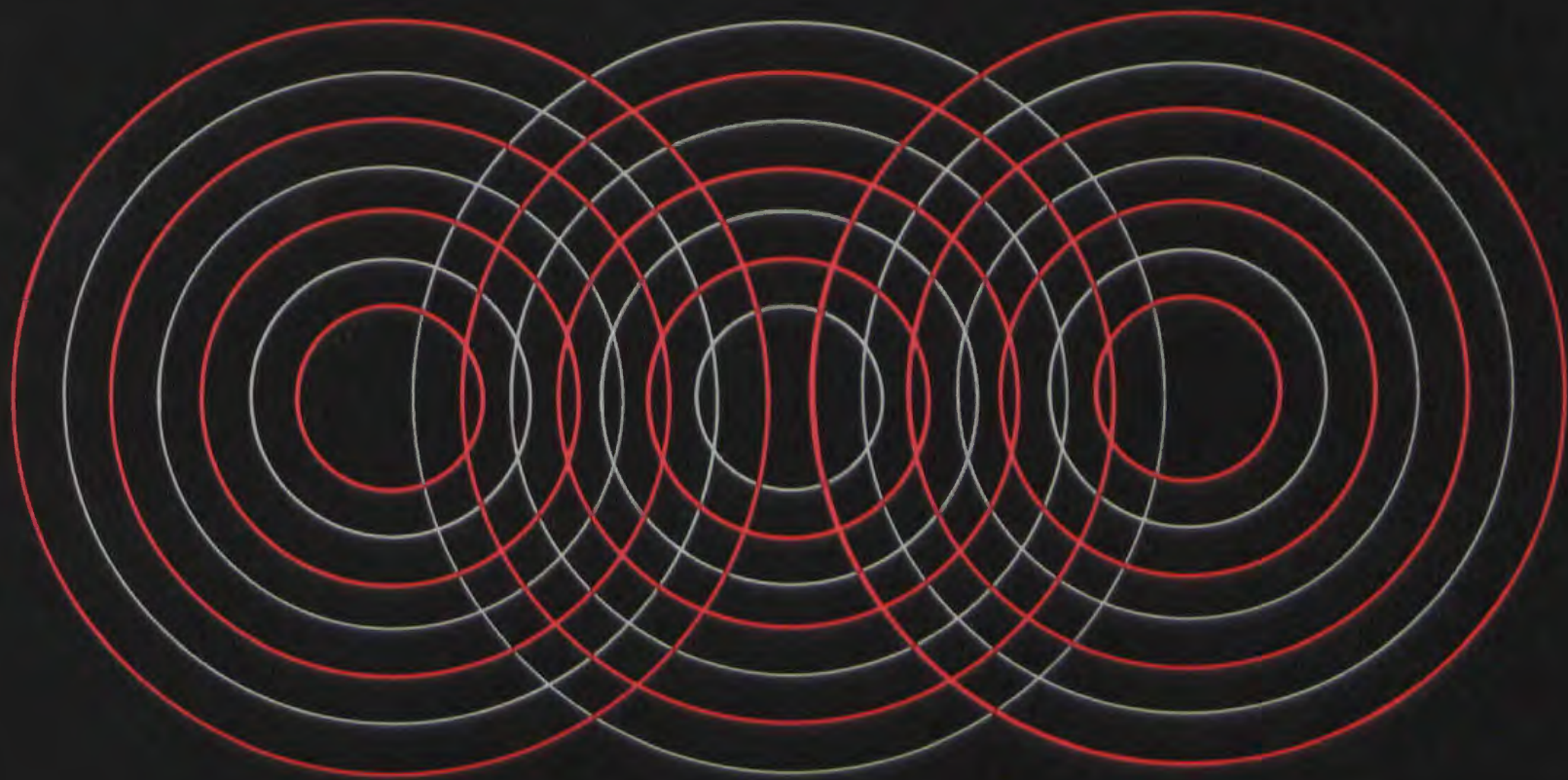
Can Labor Bridge the Gap? Can organized labor bridge the gap between the established sectors of society and those still outside the mainstream? This paper presents the challenge and examines the prospects for utilizing new developments to communicate with minority groups still striving for acceptance and vastly improved status.



The Annenberg School of Communications, University of Pennsylvania, is a graduate school offering programs leading to the M.A. and Ph.D. in Communications. Inquiries about the programs may be addressed to The Annenberg School, 3620 Walnut Street, Philadelphia, Pa., 19104. Tel.: (215) 594-7041.

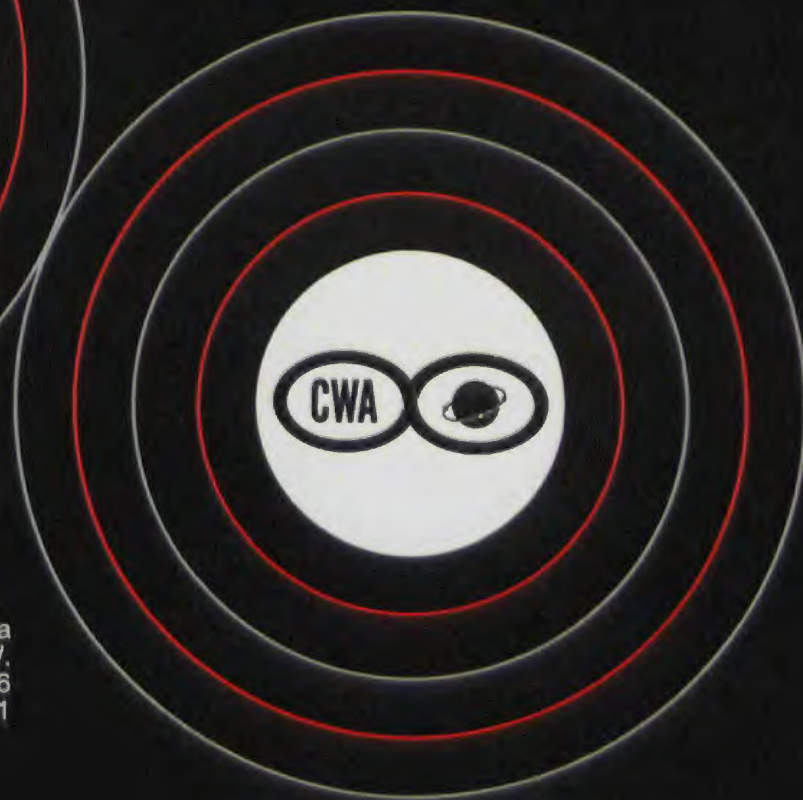
The Communications Workers of America, AFL-CIO, represents over half a million men and women employed in the communications industry. CWA has always manifested an active concern with national policies and community problems. Further information may be obtained from the President, Communications Workers of America, 1925 K Street, N.W., Washington, D.C. 20006. Tel.: (202) 337-7711.







The Annenberg School of Communications
University of Pennsylvania
3620 Walnut Street, Philadelphia, Pa. 19104
215/594-7041



Communications Workers of America
1925 K Street, N.W.
Washington, D.C. 20006
202/337-7711

Attendance as of March 1 will be 144 people processed, out of 350 possible. These break down to $\frac{1}{3}$ industry and government, $\frac{2}{3}$ academics. They are from the fields of communications, electronics, computers, management sciences, research analysis, and are middle level managers. A few people from the Canadian government, and a few Europeans, are coming. There will be no Corporation presidents, no Cabinet officers, no ambassadors.

They need an answer by Friday.
March 3. I recommend you regret.

Accept ✓

Regret

(215) 594-7180

Thursday 3/9/72

INVIT. ACCEPTED
3/24/72
7:00 p.m.

11:00

Talked with Professor Melody and accepted the invitation to speak to the Annenberg School of Communications in Philadelphia. Professor Melody asked that we call him when Mr. Whitehead's reservations have been confirmed, so they can have Mr. Whitehead met at the airport when he arrives. Professor Melody indicated Mr. Whitehead could arrive as late as 6:30.

The symposium will be held at the International House, 37th and Chestnut Streets.

If we need to get in touch with Mr. Whitehead, we can call Mrs. Schiller, secretary for the Symposium by going through the Switch Board - (215) 594-7041, or by calling Professor Melody at (215) 594-7180.

DOCUMENT CONTROL

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<p>TO Director</p> <p>FROM Eliska Hasek - White House</p> <p>SUBJ.</p> <p>Memo to Director re express the President's greetings verbally at an International Symposium on Communications March 23, 24, and 25, 1972. Director will be principal speaker.</p>				<table border="1"> <thead> <tr> <th>ROUTING</th> <th>DATE SENT</th> </tr> </thead> <tbody> <tr> <td>Eva</td> <td>3/15</td> </tr> <tr> <td>B. Smith</td> <td></td> </tr> <tr> <td>...</td> <td>3/15</td> </tr> <tr> <td>J. Agnew</td> <td>3/15</td> </tr> <tr> <td>Eliska</td> <td></td> </tr> <tr> <td>CTW</td> <td>3/15</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		ROUTING	DATE SENT	Eva	3/15	B. Smith		...	3/15	J. Agnew	3/15	Eliska		CTW	3/15										
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						B. Smith					
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THE WHITE HOUSE
WASHINGTON

March 14, 1972

MEMORANDUM FOR TOM WHITEHEAD

If you feel it would be sufficient, could you please express the President's greetings verbally when you speak at this Symposium.

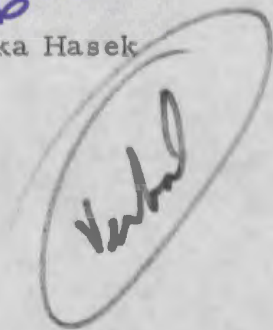
Should you, however, rather have a written Presidential message, I will be happy to get one through the system if I may have a draft from you as soon as possible.

Thank you.

E. Hasek

Eliska Hasek

Att.





15.
Message
3/23/72

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

The Annenberg School
of Communications
3620 WALNUT STREET

Telephone: 594-7041

March 10, 1972

President Richard M. Nixon
The White House
1600 Pennsylvania Avenue
Washington, D. C. 20500

Dear Mr. President:

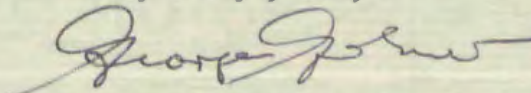
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The Annenberg School of Communications, University of Pennsylvania, and the Communications Workers of America are co-sponsoring an International Symposium on Communications on March 23, 24, and 25, 1972.

The enclosed brochure will indicate the range and depth of this Symposium, at which Dr. Clay Whitehead will be a principal speaker.

Certainly with the unprecedented efforts being made to bring about fuller mutual understanding between the peoples and governments of all nations an International Symposium on Communications at this time has special significance.

It would be deeply appreciated if you were to send a message to the Symposium in time to have it read at the opening dinner-conference on March 23.

Very truly yours,



George Gerbner,
Professor of Communications
and Dean

GG:kas
enclosure

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THE WHITE HOUSE

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PRESIDENTIAL
MESSAGE OFFICE

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WHITE HOUSE
MAIL ROOM

speaking engagements Annenberg - 3/24/72

February 10, 1972

MR. WHITEHEAD

Linda Smith

Invitation to Address Annenberg School and Communications Workers
of America Symposium

You have been asked to be the dinner speaker at the "International Symposium on Communication: Technology, Impact and Policy," sponsored by the Annenberg School of Communications and the Communications Workers of America, on Friday evening, March 24, in Pennsylvania.

The Symposium will be held March 23-25, and consist of six panels meeting in working sessions. The topics and some people presenting papers: (approximately 6 per topic)

1. Time, Space and Pace: Defining Dimensions of Change - Arthur D. Hall
2. Institutional Powers and Controls: Who Decides What for Whom - Nicholas Johnson, William Melody (who invited you)
3. Acculturation and Education: Growing Up in Changing Cultures - Jerome Bruner
4. The Intimate Strangers: Living Together in New Communities - Theodora Shlorer
5. World Systems: Integrating or Disintegrating? - an international group from NASA, Israel, Chile, Switzerland, Finland and Canada.
6. Which Way the Future? Measures, Trends and Indicators - Various

The Symposium results from a smaller conference held last year, and as part of the School's Colloquium Program for speakers outside the Academic Community. In the fall of 1971, Walter Hinchman spoke on communications technology and radio frequency spectrum. Walt will be attending this Symposium.

350 people (students, experts, etc.) will attend the Symposium. Thursday, March 23 the dinner speakers will be Joe Byrne of CWA and Dennis Gabor, the Noble Prize Winner. You have been asked for Friday, March 24 at dinner, to speak on "Functions of Communications Policy Planning in the US and the Role of OTP."

Professor Melody feels the Symposium designed to "address the problems of anticipating and directing communications technology to meet the needs of society, rather than simply absorbing the consequences of random technological development," answers your University of Texas criticisms of communications graduate schools. He is, therefore, anxious that you accept.

If the dinner speech is inconvenient, you have been asked to speak at lunch, also Friday, March 24. The problem with this is time: lunch would start at 12:30 p.m. and the afternoon sessions at 2 p.m. You would be the only lunch speaker, as the Symposium doesn't start until noon on Thursday and ends at noon on Saturday.

cc:

DB Chron

DO Records

Hinchman

Lamb ✓

LKS Subject

LKS Chron

LKSmith:jem

International / Technology, Symposium on / Impact and Communication / Policy

January 13, 1972


Dr. Clay T. Whitehead, Director
Office of Telecommunications Policy
Executive Office of the President
Washington, D.C. 20504

Dear Dr. Whitehead:

The Annenberg School of Communications, a graduate school at the University of Pennsylvania, and the Communications Workers of America, a labor union, have joined forces to sponsor an International Symposium on Communication: Technology, Impact and Policy, to be held at the University of Pennsylvania, March 23-25, 1972. Approximately forty technical experts, social scientists, communications scholars and researchers from eight countries will assemble in Philadelphia to discuss these issues with an invited group of about 350 participants. Six panels will meet in working sessions to explore technological, institutional, educational, urban, and international issues. A copy of the Symposium brochure, which describes events in greater detail, is being forwarded to you under separate cover.

On behalf of the Symposium Directors, it is my privilege to invite you to join Symposium contributors and participants at dinner, Friday, March 24, 1972, at 7:00 p.m., and address them briefly after dinner. The duration of your address could be anywhere from fifteen to thirty-five minutes, depending upon your desires and other demands on your time. What is most important, we think, is a deepening of the understanding by all participants of the functions of communications policy planning and the role of the Office of Telecommunications Policy. Hence, it would be appropriate for you to discuss the past, present, and future characteristics of communications policy planning in the United States. However, should you wish to pursue a different topic for the occasion, please feel free to do so. In the event that you cannot accept our invitation for Friday evening, we would be happy to have you join us for lunch on the same day at 12:30 p.m.

March 23-25, 1972 • Philadelphia, Pa.

 The Annenberg School of Communications
University of Pennsylvania
3620 Walnut Street, Philadelphia, Pa. 19104
215/594-7041



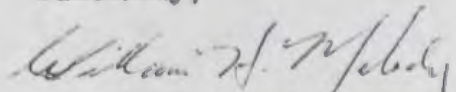
Communications Workers of America
1925 K Street, N.W.
Washington, D.C. 20006
202/227-8070

Dr. Clay T. Whitehead

At the Annenberg School we have been particularly sensitive to the tendency for one's thinking to be constrained by present technologies, institutions and policies. The Symposium, which is an outgrowth of a smaller conference of experts and scholars on the same subject held at the University of Pennsylvania almost a year ago, is part of the continuing effort to ensure that our thinking is forced beyond the confines of present structures. That effort also takes the form of inviting innovative thinkers and scholars from outside the academic community to address the School as part of its Colloquium program. During the fall of 1971 we were fortunate to have Walter Rinchman of the Office of Telecommunications Policy speak on the subject of communications technology and the radio frequency spectrum. These and related kinds of activities, we hope, exempt us from sweeping criticisms of the kind attributed to you during your visit to the University of Texas, November 18, 1971, that graduate schools of communication tend to think only in terms of how present technology can be extended along existing lines, and not in terms of how technology can be planned to meet the social needs of the future. The purpose of the International Symposium on Communication is to address the problems of anticipating and directing communications technology to meet the needs of society, rather than simply absorbing the consequences of random technological development.

We will be honored if you can join us at the Symposium. Your presence would provide a unique contribution to the experience of participants and provide us with an opportunity to enhance your familiarity with the communications program at the Annenberg School.

Sincerely,



William H. Melody
Associate Professor of
Communications & Economics