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A management newsletter on IEEE operations . . . to encourage communication among committees, Groups, Sections, and staff

ELECTRICAL ENGINEERING®

ON ACCESS TO GOVERNANCE. No member of IEEE is ever without direct access through his Regional Director with the Board of Directors (BofD) for the presentation of an idea or correction of a condition. The Organization Roster, Jan. '69, names the Sections and gives each Regional Director's name and address; Section boundaries are mapped in Section Manual, Part 8. Regional Directors make the rounds of Sections and attend many conferences; they are happy to make personal appointments.

No unit is ever without direct access to the Executive Committee (ExecCom) through its Coordinator of the unit's activity. The Organization Roster shows units under each Standing Committee or Board; the box in E. E. Feb., p. 8 shows the assignments of Coordinators; they may be addressed at IEEE (see footnote, p. 8). Communications with ExecCom on novel or controversial subjects gain strength by endorsement if sent up through channels, but direct access is never denied. A simple request for action will move quickly if addressed to the Coordinator, copies as necessary or desirable.

ON ENGINEERS AS ACTIVISTS. "The engineer should reassess his role in society. Instead of being engrossed with his machines and his formulas, he should look at the people around him and communicate with them. . . The days of a monopoly by lawyers are practically over. . . There is no resistance from society toward the assumption of an activist role by engineers. . . And we can be sure of one thing: if we ignore the public, the contempt will be mutual."—S. H. Durrani, Sec.-Treas., in Nov. '68 "P. S." of Princeton Section.

The world does move! In older tradition a scientist was one who, through education, training, practice, and by choice tended to withdraw deeper and deeper into a technologic shell, "preoccupying himself with what he could do best." The same would go for the engineer, except that for a consideration he'd sully himself with the marketplace.

The new approach is that when an engineer speaks out publicly, or within the policy-setting councils of his organization, on the engineering aspects of such matters as conserving natural resources, policing the physical environment, striking balances in the economy, broadening the popular base of esthetic appeal or otherwise applying technology to the public domain, he is still functioning in terms of what he can do better than others less advantageously placed.

Is schizophrenia the answer? With 24 hours in a day there is time to split the affections. Eta Kappa Nu demands it of nominees for their Outstanding Young Electrical Engineer awards. We like to think that E. E.'s readers, as they go up and up in IEEE, will develop a lively social conscience.

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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I. S. Coggeshall, Editor

TOP-SIDE DEVELOPMENTS

NOMINEES FOR OFFICE, 1970. Action required right now. . . See Calendar of IEEE Elections and Appointments, page S, Statements of Policy:

1) Regional Committees of odd-numbered Regions are to present nominees (Bylaw 401.8) for Delegate-Directors by April 30. (See E.E. Feb., pp. 1-2.)

2) Sections and Groups invited in April to submit by June 1 recommendations for appointments to 1970 Standing Committees and Boards (not including BofD).

3) Each chairman of a Standing Committee or Board to recommend by June 1 the succeeding chairman and members for 1970.

"STATE OF THE IEEE." President Willenbrock's keynote address to BofD on Jan. 7 will be found on white pp. 4E-4K. Not available elsewhere. "Recommended reading" for all in positions of IEEE leadership and responsibility.

"IEEE POLICIES" are determined only by the Constitution (after 6 years still unamended) and within the successive BofDs; hence, except as it is reflected by BofD's voted actions, "the policy of IEEE" has been said, briefly, "not to exist." Spectrum editor McCue, in April '69 issue, p. 25, quotes President Willenbrock as saying, "I hope I never see a statement which says 'The IEEE believes. . .' ". On his own behalf, the editor of Spectrum disclaims any pretense that articles in his magazine (including those by staff writers) bear the "ideological or political cachet of the Institute," or that Spectrum itself is a "pipeline for IEEE policy."

The editor of E.E. can make his disclaimer easily remembered: "If you see it in E.E., it ain't necessarily so." While staff reviewers keep him in line as to facts, his choice of subjects for inclusion, quotation, and comment, as well as his choice of obviously colored pages (formerly called Supplements), are his own.

What, then, can readers believe? E.E. does make a fetish of quoting adopted Bylaws: they directly reflect BofD policies. The Statements of Policy are also authoritative, having been adopted by ExecCom in accordance with BofD-approved machinery; and, as noted in E.E. Feb., p. 3, are in process of being reconstituted. Under Bylaw 302.7, ExecCom is charged with broadly considering IEEE policies and making recommendations to BofD on its own initiative. Under Bylaw 304.8, the various Manuals are approved by ExecCom, so that, except by inadvertence or delayed updating, the Manuals are consistent with BofD policies. Apart from approved Manuals, actions of boards and committees are to be ascribed to those bodies alone, without implication that they conform to, much less set, "Institute policy."

MAILING LISTS SACROSANCT. Statement of Policy #6 restricts the use of mailing lists to "normal IEEE-sponsored activities." ExecCom recently declined to follow the example of a scientific society which, for revenue purposes, sells to selected buyers a list of registrants at its principal convention.

In another action ExecCom denied request of a charity to donate certain mailing lists in support of fund-raising activities. (For still another action, see E.E. Oct., p. 3.)

PUBLICATION NEWS

RECENT CHANGE OF DIRECTION in general character of Spectrum articles (see E.E. Oct., p. 1) is to be subjected to a wide base of critical evaluation by members. April '69 and subsequent issues of Spectrum will carry a reader service card, affording opportunity to record favorable and adverse reaction to modifications instituted by the Publications Board.

GROUP TRANSACTIONS. A department of 40 staff people edits and processes the technical articles for 33 IEEE Transactions and Journals. Woody Gannett is looking for the right person to become Managing Editor, working with authors, Group editors, and printers. He specifies electrical-electronics degree as desirable; publication experience, especially effective scheduling, as necessary (Direct correspondence, Woody Gannett)

MICROFICHE "READERS." Microfiche editions of three IEEE publications are available. (See E.E. June '68 p. 5; Dec., p. 5.)

For those whose immediate acceptance of microfiche has been impeded by fogginess about the essential viewer, or reader, there is now a listing available of readers on the market, arranged in price order, and showing how they may be obtained. (List, Woody Gannett)

EDUCATION NEWS

HOME STUDY COURSE—the Management Games Seminar offering (see E.E. Feb., p. 4)—attracted 1,500 registrants in the northeastern U.S., and has been enthusiastically received by subscribers. Watch for announcement of extension to other areas in the Fall. (Leaflet, IEEE Educational Registrar)

SHORT COURSES. See Jan.'69 Spectrum, pp. 117-124, for a list of "Short courses in electrical and electronics engineering —Winter, Spring, Summer 1969."

INVOLVEMENT FOR STUDENTS. (See E.E. Feb., p. 6.) IEEE Student Journal is first to react to the new practice: by placing representative Students on its decision-making Editorial Board. Four have been named: Kenneth T. Fong of Cal-Tech, Robt. A. Johnson of U. of So. Carolina, Robt. C. Hermann of Cornell, and Jackie Smith of Oklahoma State. All four are expected to be present at the Editorial Board meeting in New York in March.

For several years, students as well as faculty members, have reviewed, accepted, rejected, and criticized articles prepared for the Student Journal. By this process, students have helped mold the periodical—unique among professional society magazines directed to youth on campus. Under the new set-up, students will gain a direct representative voice in fitting the magazine to reader profile, in determining what articles are to be solicited, and what features are to be incorporated, reconstituted, or dropped.

1969-1970 ACADEMIC YEAR. March, a year ago, Director Sumerlin was able to report to BofD that "A number of Counselor appointments have already been made for the academic year ahead, and effort is being made to review and complete appointments for all Student Branches and Student Associate Branches before the summer vacation begins."

Being forehanded pays off. Look ahead

COMMITTEE NEWS

MORE ON MEMBERSHIP. As reported in E.E. Feb., p. 5, IEEE on Dec. 31, '68 reached a year-end membership high point of 162,368 members. The Secretary's Report for 1968, now available, reveals that Students have increased in number to 23,930, from 19,104 two years ago.

Total memberships in Groups continue to rise: in 1965 there were 114,968; in '66 126,658; in '67 138,608; and in '68 145,399. Computer Group still vies with Power Group for tops, but both are well ahead of the other leaders in Top Six: Electron Devices, Aerospace & Electronic Systems, Communication Technology, and Circuit Theory, in that order.

E.E. is sent without cost beyond dues to officers of IEEE Groups, Committees, Boards, Councils, Conferences, Regions, Sections, Subsections, Chapters, and Branches of IEEE.
Application to mail at Second-Class postage rates is pending at New York, N. Y.

Size can be an asset if worn with good grace. A young fellow 2 m (6 ft. 6 in.) tall may be all knees and elbows. Yet, he's something to watch if he's still growing.

AWARDS. Q. - Where can I find listed the recipients of Institute awards?
A. - Since awards are made at different times of year, look in current and back issues of Spectrum, indexed under "News of the IEEE;" e.g., Feb. '68, p. 14, Major Awards; Dec. '68, p. 12, Field Awards. Cumulative lists appear in IEEE Membership Directory 1968, pp. 4-6, and in the brochure, "IEEE Awards—An Invitation to Nominate," pp. 9-12. (Copy, further information, Una Lennon)

Sections and Groups issue certificates and plaques, award scholarships, prizes, and so on; notices of these are usually posted in the unit's newsletter or journal. Names of such periodicals and their editors can be found in Organization Roster, Jan. '69. Or, the respective chairmen will either answer or properly redirect inquiries. Student prize contest winners are named in Spectrum and Student Journal (?).

GROUP NEWS

NEWS OF TAB AND THE GROUPS. See "cafe"-tinted pages 4A-4D. With this issue of E.E., for the first time "Technical Activities Board" insert is printed on distinctively colored pages in E.E.'s centerfold, and may be expected to reappear regularly in forthcoming issues. Material is prepared by Dick Emberson and staff for maximum impact on all concerned or interested.

Note: Similar compact inserted pages (heretofore called Supplements) in various tints are recommended to other units for periodic or occasional appearance in lieu of paragraphs in E.E.'s columns. Forms, tables, etc., may be included. All inserts will be 3-hole punched. E.E. will continue to refer to them by month of issue and page number.

TO MEXICO NEXT NOVEMBER, ANYBODY? Director Hawley expressed to BofD in January the hope "that some of the technical Groups can be encouraged to organize major conferences in our Region (Latin America), rather than our continuing to organize local conferences each year that duplicate the subjects treated in some of the American conferences. This would greatly promote the non-national aspects of IEEE and would awake interest in the Institute within our Region."

IEEE's BofD and ExecCom have scheduled their November 12-14, '69, meetings in Mexico. Any takers, among Groups with justifiable wanderlust, of Region 9's invitation? Coinciding (or not) with Top-Side's '69 dates? No? How about 1970? Airline miles New York - Mexico City same as New York - Phoenix, Ariz. (Explorations, Dick Emberson)

CONVENTION NEWS

ON MISSING THE BUS. Came the vernal equinox this year, and Aries the Ram—rampant—rammed Convention Week against E.E.'s April type-and-print timetable and nobody won. Convention no-news will have to do for good news.

For the official pre-Convention rationale, see the "keyed" boxes, written by Technical Program chairman Beam, displayed on pp. 137-159 of March Spectrum. May Spectrum will carry the wrap-up.

CONVENTION-CALIBRE MEETINGS held elsewhere. Astute meetings-chairmen of Sections, and sessions-organizers of conferences, can pick up from the Convention advance program, and especially from the Convention Digest, leads for turning to local account the benefits of papers and panel discussions presented there.

There are at least two approaches:
1) Choose a session or panel on a tutorial, interdisciplinary, or "horizon" subject. Appoint your session organizer. . . Let him (them) divide the subject, dig up the

Technical Activities Board

Chairman of the Technical Program Committee for the 1970 International Convention

Dr. James H. Mulligan, Jr., Chairman of TAB, has announced the appointment of Mr. William O. Fleckenstein as Chairman of the Technical Program Committee for the 1970 International Convention.

Mr. Fleckenstein is General Manager - Research and Development in Western Electric Company's Engineering Division. In this capacity, since 1968 he has been in charge of the Engineering Research Center at Princeton, New Jersey.

He attended Lehigh University, earning a Bachelor of Science degree in Electrical Engineering with highest honors. In 1959, he was selected by Eta Kappa Nu for honorable mention as an outstanding young American engineer.

In 1949 he joined Bell Telephone Laboratories. He participated in the Communications Development Training Program (CDT) at Bell Labs and did development work on electronic switching systems, advancing to supervisor in 1954. In 1956, he became head of the Special Systems Exploratory Development Department and the following year assumed responsibility for the Data Systems Development Department.

Appointed Director of BTL's Data Communications Laboratory in 1960, he was in charge of the development of data equipment for communication between business machines. He was named Associate Executive Director of the Data and PBX Division in May 1966, advancing to Executive Director in September 1966, responsible for the development of data communications, private branch exchange, telegraph, key telephone and private line systems.

During his 19 years with Bell Telephone Laboratories, Mr. Fleckenstein made important contributions to the development of the first data sets and participated in the early development of electronic switching and communication systems.

Group Budgets and Financial Statements

The TAB Finance Committee and TAB Operating Committee (TAB OpCom) have given much thought to the complexities of Group budgets and financial statements, partly brought about as a consequence of the interdependency of these budgets and the IEEE budget. It is hoped that two formats may be developed, one to give full details and essentially in the present form, and the other to be simplified to the greatest extent practicable to highlight those items that have the greatest effect on Group income and expense.

Technical Interests of IEEE Members

A coordinated program is underway between the Publications Board, Information Services, and the TAB OpCom to develop better means for indexing materials published by IEEE, to identify the primary and secondary technical interests and activities of IEEE members, and to obtain some means of relating these technical interests and activities of the members to the subject classification used in the index. It is hoped that this joint program may lead to a variety of improved services to members. Also the members' technical interest profiles will serve as an administrative and control tool which should enable the Groups to deal more effectively with highly specialized symposia, Workshops, standards programs, and similar activities. At the present time, Group officers and Technical Committee Chairmen are being asked to help with the development of a first draft for a coordinated technical activities scheme for IEEE members. It is anticipated that a single classification will evolve which will be useful for individual members, for Groups and Technical Committees, for conferences, and for publications. Before an effort will be made to determine technical interest profile's for all IEEE members, there probably will be several iterations, and perhaps one or two supplemental trials with small randomly selected populations. Meanwhile, a decision has been made to take advantage of a membership-wide survey currently underway to obtain up-to-date information for the 1970 issue of the IEEE Directory. All members will be asked to identify themselves using the technical subject list now being employed by IEEE and the IEE (London) in their joint publications Electrical and Electronic Abstracts and Computer and Control Abstracts.
A copy of the subject classification is reproduced on the next page. All Group officers and Technical Committee Chairmen are urged to acquaint themselves with this matter and to encourage all members to respond to this item on the Directory questionnaire.

1969 Classification System for Electrical and Electronics Abstracts and Computer and Control Abstracts

0 GENERAL TOPICS, CIRCUITS AND ELECTRONICS
00.00 GENERAL
01.00 EDUCATION AND TRAINING
02.00 MATHEMATICAL TECHNIQUES (see 60.00)
03.00 CIRCUIT THEORY
03.10 Network Topology
03.20 General Analysis and Synthesis Methods
03.30 Computer Aided Circuit Design
03.40 Lumped Linear Networks
03.50 Distributed Linear Networks
03.60 Nonlinear Network Analysis and Design
03.70 Time-Varying and Switched Networks
03.80 Filters
04.00 ELECTRONIC CIRCUITS
04.10 Power Supply and Supervisory Circuits
04.20 Amplifiers
04.40 Oscillators
04.50 Modulators, Detectors and Mixers
04.60 Pulse and Digital Circuits
04.80 Special Purpose Electronic Circuits
05.00 INTEGRATED ELECTRONICS
05.10 Monolithic Integrated Circuits
05.20 Hybrid Integrated Circuits
05.30 Other Integrated Circuits
06.00 PROJECT AND PRODUCTION ENGINEERING
06.10 Project Engineering
06.20 Reliability and Quality Control
06.30 Electromagnetic Compatibility
06.50 Product Appearance and Packaging
06.60 General Fabrication Techniques
06.70 Production Facilities and Engineering
08.00 ENGINEERING ADMINISTRATION AND MANAGEMENT

1 ELECTRON DEVICES AND MATERIALS
11.00 GENERAL MATERIALS SCIENCE
11.10 General Materials Properties
11.30 Materials Testing
12.00 CONDUCTORS, INDUCTORS AND SWITCHES
12.10 Conductive Materials and Effects
12.20 Resistors
12.30 Inductors, Coils and Signal Transformers
12.40 Wiring, Connectors and Printed Circuits
12.60 Relays and Switches
12.70 Electrical Contact Phenomena
13.00 MAGNETICS AND SUPERCONDUCTORS
13.20 Magnetic Effects in Materials
13.30 Ferromagnetic Metals and Metallic Cores
13.40 Ferrites, Garnets and Their Devices
13.50 Magnetic Thin Films and Devices
13.60 Magnets
13.70 Other Magnetic Materials and Devices
13.80 Magnetic Device Circuits
13.90 Superconductive Effects and Devices
14.00 DIELECTRICS
14.10 Inorganic Insulators
14.20 Organic Insulators and Plastics
14.30 Insulating Coatings
14.40 Capacitors
14.50 Ferroelectric and Piezoelectric Materials, Effects and Devices
14.70 Other Dielectric Materials, Effects and Devices
15.00 ELECTRON TUBES
15.10 Electron Tube Technology
15.20 Emission
15.30 Vacuum Tubes
15.40 Travelling Wave Tubes
15.50 Other Microwave Tubes
15.60 Cathode-Ray Tubes
15.70 Phototubes
15.80 Gas Discharge Tubes
16.00 OPTOELECTRONIC EFFECTS, DEVICES AND SYSTEMS
16.20 Photodetectors and Infrared Detectors
16.40 Photoemission and Photoemitting Devices
16.50 Other Optoelectronic Devices
16.60 Display Systems
17.00 QUANTUM ELECTRONICS, LASERS
17.20 Laser (and Maser) Theory
17.30 Laser Operation and Interactions
17.40 Semiconductor Lasers
17.50 Solid Lasers
17.60 Gas Lasers
17.70 Other Lasers
17.80 Holography
18.00 SEMICONDUCTORS
18.10 Growth, Preparation and Basic Properties
18.20 Bulk Semiconductor Effects and Devices
18.30 Surfaces, Boundaries and Contacts
18.40 Junction Theory and Classical Junction Diodes
18.50 Junction Breakdown and Tunnelling
18.60 Bipolar Transmissions and Thyristors
18.70 Field-Effect Devices
18.80 Other Semiconductor Effects and Devices
18.90 Semiconductor Device Characterization and Modelling

2 ELECTROMAGNETICS AND COMMUNICATION
21.00 ELECTROMAGNETICS
21.10 Electric and Magnetic Fields
21.30 Electromagnetic Wave Theory
21.40 Guided Wave and Cavity Theory
21.60 Electromagnetic Waves in Plasma
22.00 ANTENNAS AND PROPAGATION
22.20 Radiowave Propagation Effects
22.30 Optic Propagation Effects
22.50 Antenna Theory
22.60 Antennas
22.61 *Single Antennas*
22.65 *Arrays*
22.80 Antenna Auxiliaries
23.00 MICROWAVE TECHNOLOGY
23.10 Waveguides
23.20 Waveguide Components
23.40 Microwave Measurement Techniques
23.50 Parametric Microwave Devices
23.70 Solid-State Microwave Devices
25.00 INFORMATION AND COMMUNICATION THEORY
25.10 Information Theory
25.30 Modulation Methods
25.40 Codes
25.50 Speech Intelligibility
25.60 Signal Processing and Detection
25.80 Communication Switching Theory
26.00 TELECOMMUNICATION
26.10 Telecommunication Systems
26.11 *Telephone Systems*
26.19 *Other Systems*
26.30 Telecommunication Links
26.31 *Lines and Cables*
26.32 *Radio Links*
26.33 *Satellite Relay Links*
26.34 *Space Communication Links*
26.36 *Optic Links*
26.40 Telecommunication Equipment
26.41 *Switching Equipment*
26.42 *Multiplexing Equipment*
26.49 *Other Telecommunication Equipment*
27.00 RADAR AND RADIONAVIGATION
27.10 Radar Theory
27.20 Radar Systems and Equipment
27.40 Radionavigation and Direction Finding
27.70 Radioastronomy
29.00 RADIO, TELEVISION AND AUDIO
29.10 Radio and Television Broadcasting
29.20 Radio and Television Transmitters
29.30 Radio and Television Receivers
29.40 Television Signals, Equipment and Systems
29.50 Audio and Video Recording
29.60 Audio Signals, Equipment and Systems

3 INSTRUMENTATION AND SPECIAL APPLICATIONS
31.00 INSTRUMENTS AND MEASUREMENT SCIENCE
31.10 Measurement Theory
31.20 Measurement Standards
31.30 Measurement and Instrumentation Systems
31.40 Signal Sources and Generators
31.50 Bridge Instruments
31.60 Display and Recording Instruments
31.70 Indicating Instruments
31.90 Other Instruments
33.00 PARTICLE AND RADIATION PRODUCTION AND INSTRUMENTATION
33.10 Particle Sources
33.20 X-Ray and Gamma-Ray Production
33.30 Particle Beams and Optics
33.40 Particle Accelerators
33.50 Radiation and Particle Detectors
33.60 Nuclear Instruments
33.70 Spectroscopy and Spectrometers
35.00 BIOMEDICAL ENGINEERING
35.10 Biomedical Phenomena
35.20 Bioresearch Instrumentation and Methods
35.40 Patient Care and Treatment
35.50 Prosthetics
35.70 Diagnosis Methods
36.00 AEROSPACE FACILITIES AND TECHNIQUES
36.10 Aerospace Test Facilities and Simulation
36.20 Aerospace Instrumentation
36.30 Aerospace Propulsion
36.40 Ground Support Systems
37.00 EARTH SCIENCES
37.10 Atmospheric and Ionospheric Studies
37.20 Geophysical Techniques and Equipment
37.30 Oceanography
38.00 SONICS AND ULTRASONICS
38.10 Sonic and Ultrasonic Devices and Equipment
38.11 *Sonic and Ultrasonic Transducers*
38.19 *Other Devices and Equipment*
38.20 Sonic and Ultrasonic Applications

4 POWER AND INDUSTRY
41.00 POWER NETWORKS AND SYSTEMS
41.10 Power Systems
41.20 Transmission Networks
41.21 *D.C. Transmission Networks*
41.30 Distribution Networks
41.40 Cables
41.50 Supports; Insulators; Connectors
41.60 Power System Protection
42.00 POWER STATIONS AND PLANTS
42.10 Energy Resources
42.20 Nuclear Stations
42.40 Fuel-Burning Stations
42.60 Water Power Stations
42.90 Other Stations and Plants
43.00 POWER APPARATUS AND MOTORS
43.20 Electric Machines for Power Systems
43.22 *Generators*
43.24 *Motors*
43.30 Small and Special Electric Machines
43.40 Transformers
43.60 Power Conversion
43.80 Switchgear
44.00 DIRECT ENERGY CONVERSION AND ENERGY STORAGE
44.10 Electrochemical Conversion and Storage
44.12 *Primary Cells*
44.14 *Secondary Cells*
44.16 *Fuel Cells*
44.20 Solar Cells and Arrays
44.30 Magnetohydrodynamics
44.60 Other Direct Energy Conversion
44.90 Other Energy Storage
46.00 POWER UTILIZATION
46.10 Drives
46.20 Traction
46.30 Lamps and Lighting
46.40 Heating
46.50 Air-Conditioning, Refrigeration
46.70 Other Domestic Appliances
46 80 Measurements and Metering

48.00 INDUSTRIAL APPLICATIONS OF POWER
48.10 Metallurgical Industries
48.20 Manufacturing Industries
48.30 Chemical and Oil Refining Industries
48.40 Textile Industries
48.50 Wood Processing, Pulp and Paper Industries
48.60 Printing Industries
48.70 Glass, Ceramic, Brick and Cement Industries
48.90 Other Industrial Applications of Power

6 SYSTEMS AND CONTROL THEORY

60.00 MATHEMATICAL TECHNIQUES
60.10 Classic Algebra
60.20 Analysis
60.30 Integral Transforms
60.40 Probability and Statistics
60.41 *Queueing Theory*
60.42 *Game Theory*
60.43 *Monte Carlo Methods*
60.50 Combinatorial Methods
60.60 Mathematical Programming
61.00 SYSTEMS AND CYBERNETICS
61.10 General Systems Theory
61.20 Simulation, Modelling and Indentification
61.30 Adaptive System Theory
61.40 Artificial Intelligence
61.50 Pattern Recognition
61.60 Man-Machine Systems
61.70 Information Theory
61.90 Other Aspects of Systems and Cybernetics
62.00 CONTROL THEORY
62.10 Analysis and Synthesis Methods
62.20 Stability
62.30 Optimal Control
62.40 Multivariable Systems
62.50 Sampled-Data Systems
62.60 Self-Adjusting Control Systems
62.70 Distributed Parameters
62.80 Time Varying Parameters
62.90 Specific Nonlinearities

7 CONTROL TECHNOLOGY

70.00 GENERAL CONTROL TOPICS
70.10 Philosophical Aspects
70.20 Economic, Social and Political Aspects
73.00 CONTROL AND MEASUREMENT OF SPECIFIC VARIABLES
73.10 Electric and Magnetic Variables
73.11 *Voltage*
73.12 *Current*
73.13 *Power and Energy*
73.14 *Frequency*
73.15 *Phase and Gain*
73.16 *Other Electric Variables*
73.17 *Magnetic Variables*
73.20 Nonelectric Variables
73.21 *Position*
73.22 *Speed and Acceleration*
73.23 *Thermal Variables*
73.24 *Chemical Variables*
73.25 *Pressure and Vacuum*
73.26 *Level, Flow and Volume*
73.29 *Other Nonelectric Variables*
74.00 CONTROL EQUIPMENT
74.10 Controllers
74.20 Sensing and Measuring Devices
74.21 *Electric*
74.22 *Nonelectric*
74.30 Magnitude Converters
74.40 Telecontrol and Telemetering Components
74.50 Indicators and Recorders
74.60 Actuating and Final Control Devices
74.61 *Motors and Actuators*
74.62 *High-Power Electric Amplifiers and Switches*
74.63 *Other Nonelectric Final Control Devices*
75.00 CONTROL APPLICATIONS
75.10 Agriculture, Other Natural Resources
75.20 Mining, Oil and Natural Gas Extraction
75.30 Materials Handling
75.40 Building and Civil Engineering
75.50 Power Systems and Devices
75.51 *Heat Systems*
75.52 *Hydraulic Systems*
75.53 *Nuclear Systems*
75.54 *Electrical Systems*
75.59 *Other Power Systems*
75.60 Industrial Production Systems
75.61 *Metallurgical Industries*
75.62 *Manufacturing Processes and Machine Tools*
75.63 *Chemical and Oil Refining Industry*
75.64 *Textile Industries*
75.65 *Wood Processing, Pulp and Paper Industries*
75.66 *Printing and Associated Industries*
75.67 *Glass, Ceramics, Brick and Cement Industries*
75.68 *Food Processing Industries*
75.69 *Other Industries*
75.70 Transportation Systems
75.71 *Road-Traffic Systems*
75.72 *Rail-Traffic Systems*
75.73 *Lift and Aerial Cableway Systems*
75.74 *Marine Systems*
75.75 *Aeronautic Systems*
75.76 *Astronautic Systems*
75.79 *Other Transportation Systems*
75.80 Communication Techniques
75.81 *Telephony*
75.82 *Telegraphy*
75.83 *Radio and Radar*
75.84 *Television*
75.85 *Postal Service*
75.86 *Remote-Signalling, Dispatching and Safety Devices*
75.87 *Photography, Cinematography, Sound Recording and Acoustics*
75.90 Other Control Applications
75.91 *Biological Systems*
75.92 *Medical Systems*
75.93 *Astronomical Instruments*
75.94 *Physical Instruments*
75.99 *Other Special Applications*

8 COMPUTER PROGRAMMING AND APPLICATIONS

80.00 GENERAL COMPUTER TOPICS
80.50 Computer Facilities, Administration and Management
80.70 Computer Education and Training
82.00 NUMERICAL ANALYSIS
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82.20 Function Evaluation
82.30 Interpolation and Functional Approximation
82.40 Linear Algebra
82.50 Nonlinear and Functional Equations
82.60 Numerical Integration and Differentiation
82.70 Differential Equations
82.80 Integral Equations
82.90 Other Numerical Methods
83.00 PROGRAMMING SYSTEMS, LANGUAGES AND PROCESSORS
83.10 Programming Languages
83.11 *Machine Oriented Languages*
83.12 *Procedure and Problem Oriented Languages*
83.19 *Other Programming Languages*
83.20 Program Processors
83.40 General Utility Programs
83.50 Diagnostic, Testing and Debugging Systems
83.60 Input-Output Programs
83.70 Supervisory and Executive Programs
83.90 Other Systems Operation Programs
84.00 FILE ORGANIZATION AND DATA HANDLING
84.10 File Organization
84.20 Data Handling
85.00 INFORMATION SCIENCE AND DOCUMENTATION
85.10 Information Centres and Services
85.20 Generation, Dissemination and Use of Information
85.30 Publishing and Reproduction
85.40 Translation
85.50 Information Analysis and Indexing
85.60 Information Retrieval and Storage Systems
86.00 ADMINISTRATIVE DATA PROCESSING
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86.20 Government
86.30 Military
86.40 Manufacturing and Distribution
86.90 Other Fields
88.00 OTHER COMPUTER APPLICATIONS
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88.20 Engineering
88.21 *Electrical and Electronics Engineering*
88.24 *Computer Engineering*
88.25 *Control Engineering*
88.26 *Civil Engineering*
88.29 *Other Engineering Fields*
88.30 Social Behavioral Sciences
88.40 Humanities
88.90 Other Special Applications

9 COMPUTER SYSTEMS AND EQUIPMENT

90.00 COMPUTER METATHEORY AND SWITCHING THEORY
90.10 Formal Logic
90.30 Automata Theory
90.50 Switching Theory
90.51 *Combinatorial Switching Theory*
90.52 *Sequential Switching Theory*
90.90 Other Computer Theory
92.00 LOGIC ELEMENTS AND CIRCUITS
92.10 Semiconductor Logic Elements
92.40 Other Logic Elements
92.50 Logic and Switching Circuits
92.90 Other Circuits for Digital Computers
93.00 LOGIC DESIGN AND DIGITAL TECHNIQUES
93.20 Logic Design Methods
93.30 Computer Aided Logic Design
93.50 Computer Architecture
93.70 Digital Arithmetic Methods
94.00 DIGITAL STORAGE
94.10 Complete Storage Units and Equipments
94.20 Digital Storage System Design
94.40 Storage on Moving Magnetic Media
94.50 Storage on Stationary Magnetic Media
94.60 Semiconductor Storage Devices
94.90 Other Storage Devices and Methods
95.00 COMPUTER PERIPHERALS
95.10 Data Communication Equipment and Techniques
95.20 On-Line Direct Input-Output
95.40 Character Recognition Equipment
95.50 Plotters
95.60 Printers
95.70 Punched Card and Tape Equipment
95.90 Other Computer Peripherals
96.00 DIGITAL COMPUTERS AND SYSTEMS
96.10 General Purpose Computers and Systems
96.50 Special Purpose Computers and Systems
96.90 Other Digital Systems
99.00 ANALOGUE COMPUTERS AND COMPUTATION
99.10 Analogue Circuits
99.20 Analogue Storage
99.30 Analogue and Hybrid Computers and Equipment
99.40 A/D and D/A Conversion
99.50 Analogue and Hybrid Programming

STATE OF THE IEEE - 1969

I should like to take the opportunity presented by this first meeting of the 1969 Board of Directors to make comments on the following general topics:

1. Present Status of the Institute
2. Immediate Goals for 1969
3. Long Term Aims
4. Effectiveness of the Board of Directors

1. PRESENT STATUS OF THE INSTITUTE

The Institute is entering its seventh year since the merger which was a sound, well-timed move. The merger is essentially completed. During this period a major part of the effort of the Board of Directors and its Executive Committee has been devoted to its internal affairs. In most respects, the organizational framework of the Institute is in good shape. I hope in the period ahead we can spend an increasing part of our time and effort to looking out at our profession and the world around us and see how we can contribute more effectively to both of them. There are great challenges facing an Institute of the size and characteristics of IEEE. I hope we can accept some of the exciting ones.

Technical Activities

In the Technical Activities area there are clearly problems ahead. There are a number of Groups with serious problems. These problems are not related to the merger, but rather due to the characteristics of the rapidly advancing areas involved. Examples are the biomedical engineering and computing areas. We have set aside a period later in this meeting when Jim Mulligan, Jr., Vice President-Technical Activities will discuss some of these problems and indicate some of their possible solutions.

A characteristic of the Groups is that they are remarkably dissimilar. Generalizations are hard to make, but I shall attempt one. What's good for one Group is not necessarily good for the next. Barney Oliver once used the phrase - adaptive change - to describe what he felt an operating philosophy of the Institute ought to be. In the Group area, it is likely that we shall be adopting some changes in the near future. Let's make sure that our "adaptive" processes do not require too much time. I hope we can speed up our ability to react to new situations.

Publications

Perhaps I have been too close to the Publications area for the past several years to view it objectively, but I shall try nevertheless.

SPECTRUM is a good journal but falls short of being exciting. We need to make it more readable, more technically interesting to the bulk of our membership, more timely, more user-oriented. We have an able editor, a good staff, and are in the process of developing a more effective editorial board. As an advertising medium, it is not much of a success. This is clearly a problem area for the Executive Committee and the staff.

PROCEEDINGS has developed strongly in the last few years after being close to failure for a number of years. Although its relation to other IEEE publications is hard to define, it has become increasingly attractive to good authors. It has a new but very able editor, an outstanding editorial board, and good staff support. If it can tackle and solve the problem of obtaining authoritative review articles on a systematic basis, if it can put us into new areas characterized by their social importance such as transportation, it can make a significant contribution to the profession and the Institute.

STUDENT JOURNAL has launched a new set of special issues on topics of particular relevance to students. I feel it will be of greater interest and value to students. It bears close watching by the Publications Board and the rest of us.

The TRANSACTIONS are in various states and stages. Some are clearly the best journals in their field; others are among the weakest journals in their field. The Institute has been faced with the difficult problem of how best to allocate its financial resources to Group publications. After a number of years of effort, it appears that a procedure has been developed which will, through judicious resource allocation and constructive criticism, provide guidance and direction for the weaker ones. It is a bit early to tell how successful the procedure will be, but at present it looks hopeful.

Our program in Information Services is off to a good start, but we are far behind societies in some other fields. We are still in an early stage and doing tasks, such as indexing, which are far from routine, as we attempt to develop machine-based procedures. We are developing effective working relations with some of the other societies, such as Institution of Electrical Engineers, American Institute of Physics and Association for Computing Machinery.

Awards

The Awards structure is subject to review and possible overhaul this year in accordance with the very wise provision in the bylaws which requires a complete study of the Institute's awards every decade. George Sinclair will report on this subject in detail at a meeting of the Board later in the year.

Educational Activities

In the educational area, there is clearly a need for an upswing in activity. We need imaginative leadership to develop programs which are responsive to the needs of the members. If we do the job right, we can bring together the resources of universities, industry, and government to tackle a problem of ever-increasing importance to our members. We are looking to John Truxal to identify programs which the Institute can undertake and implement effectively.

The formation of the Educational Activities Board last year gave us the operational framework for the job. Some progress was made last year but I hope there will be much more this year. The Institute has a great potential for service in this area, which I feel is relatively poorly exploited at present. The educational business needs innovative thinking; its use of technology - which our profession helped to create is fantastically slow. The major technological aid for instruction used in universities, the blackboard, is not the newest thing on the market. I hope IEEE can give the educational world some help, which it badly needs.

Long Range Planning Committee

The advent of a Long Range Planning Committee can also be of great help to the Institute in identifying long-range goals and seeking ways to reach them. I hope each of you will read over the report of last year's committee and that you will send Sy Herwald your comments and recommendations. All the standing Boards should certainly comment on their areas of activity. Board members might well take an overall point-of-view and in this way identify the possible areas of the Institute's activities which are not well covered by our existing Boards and Committees.

Staff

A few words about the staff and management of the Institute are in order. The finances of the Institute are probably better understood now than they ever were before, due to the hard work of Sy Herwald, Hal Chestnut, Ray Sears, Don Fink and members of the staff. There is enough knowledge about budgetary matters now that the Institute, unlike most non-profit organizations I know of, has a pretty good idea about how much things cost and where its resources are being allocated.

The staff is in reasonably good shape, the weak spots are quite well identified. I believe our finances and management capability are such that the programs which the Board decides to carry out can be implemented effectively. While there are clearly improvements to be made in our organizational procedures, I hope that this Board in particular, will not succumb to the disease of being fascinated by them and devote too much of its efforts to detailed procedural matters. Let's look at the overall job we are now doing and we might do in the future.

2. IMMEDIATE GOALS FOR 1969

Some of the goals which I have asked the Executive Committee to consider at its first meeting are definitely of a house-keeping nature and the Executive Committee has the responsibility and necessary authority. However, there are some in which the Board must play the dominant role.

Development of Region 8

The Institute has taken, over the past several years, a number of actions directed towards building up its non-United States membership. In particular, much effort was devoted to Region 9, the Latin-American region, during the administrations of Gerry Shepherd and Walt MacAdam. A Spanish-language publication was started. There has been an increase in IEEE activity.

Would it be appropriate and desirable to devote special attention to Region 8 for a few years? There has been an increase of activity there with the introduction by Bob Williams of a newsletter. Sy Herwald attended both Regional meetings this past year. It would appear opportune to make a special effort to develop a more fruitful association with the various national societies and build up IEEE activity and membership. Our new Regional Director, Roger Wellinger, has a reasonable base of activities from which we ought to be able to extend the effectiveness of IEEE among the highly technically developed countries.

Public Relations

Another possible goal is to do a more effective job on the daily and weekly press. How can we do a more effective job of informing the public about our profession and its activities? Don Fink has recently added a new man to the staff to handle public relations work. The present situation is that, in the USA at least, the scientific societies like the American Chemical Society and the American Institute of Physics do a much better job than we do in supplying the press with significant news items. I feel the Institute ought to take a hard look at this problem and try to develop techniques for projecting an appropriate, favorable image of our profession to the public. We need our share of the bright members of the younger generation.

A sensitive indicator of how well we are doing is the career choices of students. Engineering is not doing well in the USA. The students we attract will determine the future strength of the profession and this Institute. We ought to be able to do better; some of the existing career pamphlets leave much to be desired.

Regional Activities

How can our geographical structure be a more effective support for IEEE activities? The concept has been developing for a Regional Activities Board which is comparable to the Technical Activities Board, Publications Board, and Educational

Activities Board. Would this be a mechanism for making IEEE more effective to the members which it serves on a geographical basis? Although most of us do a lot of travelling, we spend a major part of our time in our home areas.

I'm very pleased that the Regional Directors are playing an active role in attempting to put our geographically-based activities on a sounder basis. Their meeting last night which I believe will be reported on later today was directed towards means of making the Section-Region axis a more effective one.

Organization

An important question for an Institute as large as the IEEE is how to avoid Parkinsonian characteristics. The development of many committees and layers of management is a characteristic of mature organizations. I hope that we can apply some contemporary management philosophy to the Institute and avoid building hierarchical structures which by their very size discourage innovation and bright ideas from coming to the surface.

The start of a number of splinter societies in specialized areas within IEEE fields of interest is a danger sign which we ought to heed. While we should use our large size to advantage - and the advantages are very real and tangible - we should also make sure that we are not smug. For example, in the computing field the ACM has had a pretty gung-ho group of officers. Their membership which used to be the same size as our Computer Group is now double the size; they have carried out some good projects on the educational front and in the advice-to-government areas. In a number of other ways they have demonstrated an ability to move quickly into new areas and do new things.

Recruiting Young Members

I know of few committees in this Institute which consciously recruit very young men. In many of our Boards we seek to obtain candidates with varying fields of technical interest, from various geographical locations, employed by different types of organizations (industry, government, universities, and private practice), but do we also consciously seek out young men - the recently employed engineers in industry, or the new Ph. D's? Such members have a characteristic of asking tough questions. Perhaps some members of the Board of Directors might undertake a study of our present practices.

3. LONG TERM AIMS

Long Range Planning

The major responsibility for long range planning has been assigned to the new Long Range Planning Committee which is chaired by the Junior Past President. Building on Walt MacAdam's efforts of last year, Sy Herwald will be chairing a small group which has the responsibility of making a systematic study of our long range objectives and goals.

As members of the top governing Board of this Institute, I feel that each of us should consider it a direct personal responsibility to examine the Institute's activities to see how effectively they meet the Institute's objectives and how responsive we are to the changing needs of the members and of society. It is desirable to keep track of activities in other professional societies to see what sort of actions they are taking and what new programs are being implemented. In addition, we ought also to be generating our own new ways of carrying on our activities and selecting desirable new ones.

4. EFFECTIVENESS OF THE BOARD OF DIRECTORS

One of the most precious assets of this Institute is the time and effort that each of you is willing and able to contribute. It should be a basic concern of this Institute that this asset be used as effectively as possible and is not wasted. In some respects it is a limiting factor in the progress of the Institute. How we can use this asset more effectively is a question towards which I feel we should direct most serious attention.

In view of the fact that so many of the Directors attending Board of Directors meetings come from such great distances, I should like to propose that we plan our quarterly meetings very systematically.

If, as will be discussed later in the day, a Regional Activities Board is found consisting of the Regional Directors and chaired by the elected Vice President, when should it meet? If it is the day before the Board of Directors meeting, it will usually conflict with an Executive Committee meeting. I feel the Executive Committee should be asked to study this question and recommend a procedure subject to the following considerations:

1. That each meeting of the Board include the presentation of an in-depth discussion of some important activity of the Institute. I have felt that the time spent by the Board of Directors at its August meetings for the past several years on the publications and information activities were of great help to me when I chaired the Publications Board. My proposal is that we extend this system. In anticipation of your approval, we have planned to devote a special period at this meeting to Group affairs. At each of our meetings, one or more of the following topics might be considered: publications, educational activities, the budget, long range planning and the awards structure. Other appropriate topics might include recruitment of the most imaginative members for Boards and Committees, overseas activities, and joint publishing programs with other societies. I shall request the Executive Committee to program the meetings of the Board for the year and inform you of the proposed schedule.

One possibility would be to have a report or a series of questions sent out to you in advance of the meeting so the Institute can benefit to the maximum from the time and energy you spend on the way to these Quarterly meetings as well as while you are at the meeting.

2. That every effort be made, by such techniques as a consent agenda for items of a routine nature, to avoid spending unecessary time on the more routine aspects of our operations. Bylaw changes are clearly important but it has been amply demonstrated that you, as a group, are poor at editing text. We can hire editors on the staff but we cannot get your wealth of experience and diverse backgrounds devoted to Institute problems effectively, except by careful staff work and careful preparation of the agendas.

3. That special consideration be given to the Directors-at-Large. Here is a pool of talent which has not been effectively enough mobilized on significant IEEE problems. Perhaps these Directors ought to be utilized as task forces to consider particular problems which are not being given adequate attention. I hope that these Directors both new and continuing will give some thought to the sorts of problems they would feel well-qualified to attack. I hope that the Executive Committee, Long Range Planning Committee and some of our standing Boards will also develop suggestions. As for some of my favorite hobby horses: How can the registration of engineers be improved in the USA, so that the original intent of the legislation is brought into reasonable consonance with reality? How do we address ourselves more effectively to topics of concern to the general public which have significant technical components in which IEEE's members are most expert? Is our overall distribution of resources among our many activities optimum or even sensible?

Conclusion

I look forward to a challenging period ahead. The Institute has great potentialities for usefulness and service to its members, the profession, and the public-at-large. I hope during 1969 we learn to exploit these potentialities more effectively.

F. Karl Willenbrock
President, IEEE

January 7, 1969

A SPEAKER FOR YOUR SECTION OR CHAPTER

?

This is a gamble -- but it's worth a try.

You are looking, not for one who is well-intended, but for a Mainliner—a man who has been chosen to talk in fast company.

One who has demonstrated capability of treating a broad subject in survey fashion so as to be of value to listeners who may not be specialists in his subject.

Or one whose subject, while specialized, perhaps, spans the territory of two or more Groups.

Or one who can handle a topic relatively new to IEEE—that is, a stimulating "Horizons" paper.

Down Your Alley?

Would a speaker like one of those appeal to your Section or Chapter? If so, you may be able to "nail" one - for your June meeting or September or October.

The IEEE Convention in New York has pioneered sessions made memorable by speakers like those, chosen by experts. Each speaker went out of his way, in preparing his talk, to meet the exacting criteria described.

Yet, his paper may never appear in print—as he knew when he prepared it to meet the challenge of oral delivery. It does appear - briefed - in the Convention Digest. Wouldn't he be pleased to be asked to "do it again"—perhaps nearer home? In your Section? In your Chapter? With his visual aids?

Here's How

In IEEE Spectrum, March '69, pp. 137-159, read the boxed articles on the Convention by W. R. Beam. Then have your Meetings Committee go into bull session with the 1969 Advance Convention Program, pp. 16-53. Tick off all speakers having addresses within "reasonable striking distance" of your Section. Then correlate them with the subject matter which would appeal most to your listeners. Narrow the list down to two, three. Pick your date and go after them by direct means.

Further Help: The Convention Advance Program, which everyone got by mail, contains a resume of each session as a whole; and in one of them your prospect played a part. In negotiating with him, ask if he'd be willing to give you a report of the whole session as well as repeating his part in it. If he's willing to, he might even borrow some of his associates' slides. That would be up to him.

E. E. No. 22—4M

April 1969

2—A Speaker For Your Section Or Chapter

To "talk his language," in the process of inducing him to accept your invitation (and to clinch your judgment in asking him), get hold of a copy of Convention Digest and read his stuff. Page 8 of the Advance Program shows how to spend, to advantage, the Section's or Chapter's funds to get one.

If you can't find out how to make contact with your "target" speaker (some, especially in the interdisciplinary areas, were invited from outside IEEE), let Emily Sirjane or Howard Schumacher help you. IEEE phone is Area 212—752-6800; address

IEEE
345 East 47th Street
New York, New York 10017

Good going!

Jack Kinn

speakers from your Section or nearby (not forgetting the colleges). . . Reach agreement with speakers on titles and content of papers. . . Appoint presiding moderator(s) capable of preparing a summarization and of organizing the speakers for a question-and-answer panel. . . The idea is to present something attendees can understand and have interest aroused. Leave more highly technical papers for another meeting.

2) Go after the Convention speakers in person. See ivory p. 4-M for particulars.

SECTION NEWS

SECTION CHANGES NAME. Buenos Aires Section has become "Argentina Section," by recent approval of BofD. The new name is more in keeping with the tremendous sphere of influence exerted by the Section. . . Our congratulations! (Note change in Organization Roster, Jan. '69, p. 60)

HOME-TOWN PUBLICITY COVERAGE. Election of a member of the Section as Fellow, as IEEE Director, officer, official, committee chairman, board member—is prime local newspaper copy, beneficial to the Section, the Institute, the man, his co-workers, his wife, parents, children, and interesting to readers who know him or know of him. Newspapers cater to such interest.

Who's news, locally, right now? Is your Section equipped to turn out and place copy and photos? Consult "Section Public Relations and Publicity Guide." (Copy, Jack Kinn. Reference, E. E. Dec. '67, p. 4.)

MEMBERS TRAVELING GLOBALLY, either out of or into United States and Canada, are encouraged to make advance contact with Section officers at destination with a view to participation in IEEE activities during their stay. (Names of Section officers in Roster; other particulars, Emily Sirjane)

Additional reciprocal advantages accrue when competent speakers can present papers to IEEE Sections in foreign countries, transatlantic, transpacific, transcaribbean, and so on, in both directions. The IEEE staff will be glad to act to bring the parties together to make their own decisions and arrangements. (Emily Sirjane)

TOOLS AND AIDS

SHARING THE SAVVY. At January BofD, Region 5 Director Sumerlin reported: "Through kindness of Regions 1 and 6 and the staff, copies of the charters of NEREM (Boston) and WESCON (West Coast) have been made available to assist in rewriting the Constitution and Bylaws for SWIEEECO (Texas)."

Have you a problem? Chances are that in this man's Institute a similar one has been met head-on. "If you don't see what you want, ask for it!"

SECRETARY'S REPORT FOR 1968 will be presented in part, as it has become customary, in June issue of Spectrum.

MEMBERSHIP DIRECTORY 1970. The biennial all-member questionnaire, upon returns from which the Directory entries are based, is now being prepared.

As a guide to improving IEEE services, recipients of this year's questionnaire will be asked to furnish (not for publication) additional information concerning their technical interests. (See cafe-colored pp. 4B to 4D.)

SELF-HELP FOR NOVITIATES. Newcomers to IEEE's "rolled-up shirtsleeves brigade" learn quickly from E. E. Each issue contains a built-in glossary of abbreviations, decoded upon occasion of first use. The footnote on the last page, and reference to the Spectrum there, acquaint one with Who-Does-What on the staff. Many items name names at the end, making it easy to get more information or materials.

E. E. is punched for 3-ring binders. Get one, use it. . . Save 6 issues; after a year we repeat some items for another generation of newcomers. . .Save a year's Spectrum, too. E. E. refers to Spectrum often but does not duplicate what Spectrum prints. . . Don't overlook the ads which IEEE runs in each Spectrum to make announcements. . . E. E. and Spectrum together hit most highspots of the extensive IEEE operation. See how the pieces dovetail—how you fit.

Skim all of E. E., including colored pages. Make underlines, marginal notes on items immediately useful or for later retrieval. . . Section chairmen get 4 copies, 3 of them to "fan out" for action. Save words in memos.

CONFERENCE SCHEDULES. A calendar of conferences is printed monthly in Spectrum (see Table of Contents, p. 3). A much more comprehensive "Master IEEE Meeting Schedule of IEEE and Jointly Sponsored Conferences," comes out quarterly; covers several years ahead. Mar. '69 issue is available. (Copy, Ed MacDonald)

If your conference is not listed, submit proposal for necessary ExecCom review.

"FOR YOUR INFORMATION"

THOSE BRITISH IEEE NECKTIES. See Spectrum, Feb., p. 99, for illustration, description, and directions how to get one or more via the back door, for Father's Day. (E. E. Feb., p. 7)

SPREADING THE WORD. To editors of all IEEE periodicals, bulletins, and newsletters, blanket permission is granted to reprint, digest, paraphrase, or expand any item in E. E. Remove quotation marks if quoted matter is changed. If you can, give items a local slant to hop them up.

IEEE EDITOR EMERITUS Alfred N. Goldsmith, who holds valid credentials in medical circles as well as accolades in engineering, genially twits E. E. for overkill in relation to the wiser, more fragile, segment of our membership. In Feb. E. E. p. 1, we had advocated Life Members being nudged off dead center into acceptance of a salute and other inducements to attend the March Convention; and we had run the item under "Needles & Prods"—that is, in stockyard context.

A sudden nudge, with or without a needle, the good doctor and E. E. now agree, might be lethal. Advocacy of same, ergo, is incitement to murder.

When the item was written, it didn't seem as though anybody would get a pinned pelvis out of having danish-and-coffee in the Hilton's Pacemaker-Praeludium Suite; and even at the re-dedicated "First Night Reception" we hadn't counted on more than a couple of polygenarian basket cases.

IT IS WITH REGRET that we report the death of Helene Frischauer, Administrative Editor of the PROCEEDINGS OF THE IEEE and of the IEEE TRANSACTIONS, on March 23, 1969. For sixteen years Helene served the IEEE and its predecessor society, the IRE, with diligence. Her conscientious contributions to the Institute's publications program were outstanding. She will be sorely missed.

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Colored inserts:

Cafe - TAB News
pp. 4A - 4D

White - State of IEEE
pp. 4E - 4L

Ivory - Re-running Convention
pp. 4M - 4N

When E. E. refers to staff members, get full name, assignments, etc., from "IEEE Spectrum"; listed monthly on second page after table of contents. Address them: IEEE, 345 East 47 Street, New York, N.Y. 10017. Or phone Area 212 — 752-6800.