

PUBLICATIONS AND REPORTS

MEETING PAPERS PRESENTED

Colloquium, Graduate Linguistic Circle, Department of Anthropology, University of California at Los Angeles, California

May 25, 1962

V. H. Yngve, Language and Memory (invited)

Seminar, System Development Corporation, Santa Monica, California

May 25, 1962

V. H. Yngve, Information Retrieval (invited)

Panel "Appellate Function, Judicial Decision, and the Role of the Judiciary," National Law and Electronics Conference, Lake Arrowhead, California

May 27-29, 1962

V. H. Yngve, Invited Discussion

Colloquium, Industry Aids to Education in Southern Massachusetts and Rhode Island Bridgewater, Massachusetts

June 2, 1962

P. A. Willis, Opportunities in Bioelectronics (invited)

Colloquium, Weapons Systems Evaluation Division, Institute for Defense Analysis, Washington, D. C.

June 6, 1962

W. A. Rosenblith, The Interface between Computer-Information Technology and the Life Sciences (invited)

Colloquium, Industry Aids to Education in Northern Massachusetts and New Hampshire, Topsfield, Massachusetts

June 9, 1962

P. A. Willis, Opportunities in Bioelectronics (invited)

Sixth Brookhaven Conference on Molecular Beams, Brookhaven National Laboratory, Upton, New York

June 11-13, 1962

H. H. Stroke, Recent Optical Hyperfine-Structure Experiments: Spectroscopy with Radioactive Atoms (invited)

MEETING PAPERS PRESENTED (continued)

Lecture, California Institute of Technology, Pasadena, California
June 14, 1962

L. Stark, Comparative Physiology of Several Neurological Feedback Control Systems (invited)

American Physical Society Summer Meeting in the East, Evanston, Illinois
June 19-21, 1962

S. C. Brown and G. Bekefi, Far Infrared Interferometer for the Measurement of High Electron Densities

J. R. Melcher, Electrohydrodynamic Amplification

Symposium on Electromagnetic Theory and Antennas, The Technical University of Denmark, Copenhagen
June 25-30, 1962

W. P. Allis, Wave Propagation in Anisotropic Plasmas (invited)

Electron Devices Research Conference, University of Minnesota, Minneapolis, Minnesota
June 27-29, 1962

W. D. Getty and L. D. Smullin, Plasma Heating by a Large-Signal Collective Beam-Plasma Interaction

A. Javan, Optical Mixing Using Resonant Phenomenon

Lecture, University of Bonn, Germany
July 3, 1962

V. H. Yngve, Neuere Entwicklungen in der Maschinenübersetzung (invited)

Lectures, Colloquium Linguisticum, University of Cologne, Germany
July 3-5, 1962

V. H. Yngve, Language and Memory (invited)
History and Present Status of Mechanical Translation (invited)

Sixth Annual Meeting AGARD Avionics Panel, Paris
July 6-9, 1962

A. Javan, Characteristics of a Gaseous Optical Maser (invited)

MEETING PAPERS PRESENTED (continued)

Eleventh International Astrophysical Symposium "Physics of Planets," Institut d'Astrophysique, Université de Liège, Cointe-Solessin, Belgium

July 9-11, 1962

A. H. Barrett, Microwave Spectral Lines as Probes of Planetary Atmospheres

Lecture, University of Bonn, Germany

July 10, 1962

V. H. Yngve, Die Theorie und Praxis der maschinellen Sprachübersetzung (invited)

NATO Advanced Study Institute on Automatic Translation of Languages, Venice, Italy

July 18-25, 1962

V. H. Yngve, Four lectures (invited):

COMIT

Writing Grammars

Depth

Stylistic Correctness in Translation

Gordon Conference on Instrumentation, Colby Junior College, New London, New Hampshire

August 7, 1962

L. Young, A Sampled Data Model for Eye Movements (invited)

Institute of the Aerospace Sciences National Specialists' Meeting -- "The Man-Machine Competition," Seattle, Washington

August 11, 1962

W. S. McCulloch, The Reliability of Neuron Systems (Guest Speaker)

MHD Panel Discussion, Pacific Energy Conversion Conference, San Francisco, California

August 12-16, 1962

H. H. Woodson, MHD A-C Power Generation

International Conference on Precision Electromagnetic Measurements, Boulder, Colorado

August 14-16, 1962

A. Javan, The Use of CW Gaseous Optical Maser for Precision Measurements

MEETING PAPERS PRESENTED (continued)

Sixth Conference of the International Commission for Optics, Munich, Germany
August 19-26, 1962

G. W. Stroke, Formation of Images and Energy Distribution in Diffraction Gratings
(invited)

Symposium on the Use of Computers in the Life Sciences, University of Texas, Austin,
Texas
August 20-24, 1962

W. A. Clark, Computer-Generated Displays in Biomedical Data Processing (invited)
On the Design of Laboratory Instrument Computers (invited)

Western Electronic Show and Convention, Los Angeles, California
August 21, 1962

W. A. Rosenblith, Some Aspects of Biological Communication (invited)

Fourth International Congress on Acoustics, Copenhagen, Denmark
August 21-28, 1962

J. M. Heinz, An Analysis of Speech Spectra in Terms of a Model of Articulation

A. S. House, A. P. Paul, K. N. Stevens, and Jane B. Arnold, Acoustical
Description of Syllabic Nuclei: Data Derived by Automatic Analysis Procedures

A. S. House and K. N. Stevens, Acoustical Description of Syllabic Nuclei: An
Interpretation in Terms of a Dynamic Model of Articulation

U. Ingard, Vortex Sound from Cylindrical Rods in Ducts

U. Ingard and G. C. Maling, Jr., Amplitude Fluctuations of Sound in Atmospheric
Turbulence

American Physical Society Meeting, Seattle, Washington
August 25-28, 1962

W. A. Jeffers, Jr. and W. M. Whitney, Frequency and Temperature Dependence
of Ultrasonic Attenuation in Liquid Helium below 1°K

W. M. Whitney and C. E. Chase, Velocity of Sound in Liquid Helium below 1°K

IX International Congress of Linguistics, Massachusetts Institute of Technology and
Harvard University, Cambridge, Massachusetts
August 27-31, 1962

M. Eden, Demonstration of Handwriting Generation and Recognition (invited)

V. H. Yngve, Demonstration Lecture – Mechanical Translation (invited)

MEETING PAPERS PRESENTED (continued)

Speech Communication Seminar, Royal Institute of Technology, Stockholm, Sweden
August 29-September 1, 1962

J. B. Dennis, Computer Control of an Analog Vocal Tract (invited)

J. M. Heinz, An Analysis of Speech Spectra in Terms of a Model of Articulation (invited)

A. S. House, A. P. Paul, K. N. Stevens, and Jane B. Arnold, Acoustical Description of Syllabic Nuclei: Data Derived by Automatic Analysis Procedures (invited)

A. S. House and K. N. Stevens, Acoustical Description of Syllabic Nuclei: An Interpretation in Terms of a Dynamic Model of Articulation (invited)

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION

(Reprints, if available, may be obtained from the Document Room,
26-327, Research Laboratory of Electronics, Massachusetts Institute
of Technology, Cambridge 39, Massachusetts.)

- A. H. Barrett and V. K. Chung, A Method for the Determination of High-Altitude Water-Vapor Abundance from Ground-Based Microwave Observations (*J. Geophys. Res.*)
- Mary A. B. Brazier, The Problem of Periodicity in the Electroencephalogram: Studies in the Cat (*EEG Clin. Neurophysiol.*)
- S. Castellano and J. S. Waugh, Proton Magnetic Resonance Spectra of Tetravinylsilicon, Methyl- and Ethylvinylketone (*J. Chem. Phys.*)
- L. W. Dean III, Interactions between Sound Waves (*J. Acoust. Soc. Am.*)
- D. H. Douglass, Jr. and R. H. Blumberg, Precise Critical-Field Measurements of Superconducting Sn Films in the London Limit (*Phys. Rev.*)
- R. D. Fay, A Corrected Analysis of Plane Finite Waves (*J. Acoust. Soc. Am.*)
- R. W. Fessenden and J. S. Waugh, Temperature Dependence of Spin-Spin Splitting in the Hindered Rotator $\text{CHCl}_2\text{-CF}_2\text{Cl}$ (*J. Chem. Phys.*)
- J. A. Fodor and J. J. Katz, The Availability of What We Say (*Phil. Rev.*)
- C. W. Garland and J. Silverman, Erratum: Elastic Constants of Cadmium from 42°K to 30°K (*Phys. Rev.*)
- J. V. Gaven, W. H. Stockmayer, and J. S. Waugh, Self-diffusion and Impurity-controlled Proton Relaxation in Liquid Ethane (*J. Chem. Phys.*)
- G. L. Gerstein, Mathematical Models for the All-or-None Activity of Some Neurons (*Trans. IRE, PGIT*)
- D. M. Green and Susan T. Sewall, The Effects of Background Noise on Auditory Detection of Noise Bursts (*J. Acoust. Soc. Am.*)

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION (continued)

- D. A. Huffman, The Generation of Impulse-Equivalent Pulse Trains (A paper presented at the International Symposium on Information Theory, Free University of Brussels, Belgium, September 2-7, 1962) (Trans. IRE, PGIT)
- J. J. Katz, and J. A. Fodor, What's Wrong with the Philosophy of Language (Inquiry)
- N. Y-S. Kiang, Review of Psychology: A Study of a Science, Vol. 4, edited by S. Koch, McGraw-Hill, New York, 1962 (Contemporary Psychol.)
- J. R. Melcher, Electrohydrodynamic and Magnetohydrodynamic Nonlinear Surface Waves (Phys. Fluids)
- R. Melzack, Effects of Early Perceptual Restriction on Simple Visual Discrimination (Science)
- R. Melzack, G. Rose, and D. McGinty, Skin Sensitivity to Thermal Stimuli (Exptl. Neurol.)
- P. Penfield, Jr., The Minimum Noise of Varactor Amplifiers (Trans. IRE, PGMIL)
- D. J. Rose and R. J. Esterling, Calculation of Distributions in One-dimensional Plasma Sheaths (J. Appl. Phys.)
- C. J. Schuler, M. Çiftan, L. C. Bradley III, and H. H. Stroke, Hyperfine Structure and Isotope Shift in the $7^2S_{1/2} - 6^2P_{1/2}$ Transition of Natural Thallium by Atomic-Beam Absorption (J. Opt. Soc. Am.)
- P. D. Wall, The Origin of a Spinal-Cord Slow Potential (J. Physiol.)
- J. S. Waugh, Nuclear Moments in Fluctuating Fields (Discussions Faraday Soc.)
- J. S. Waugh and C. S. Johnson, Jr., Nuclear Relaxation and Intermolecular Forces in Gases (Discussions Faraday Soc.)

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION

- G. Bekefi, J. D. Coccoli, E. B. Hooper, Jr., and S. J. Buchsbaum, Microwave Emission and Absorption at Cyclotron Harmonics of a Warm Plasma (Phys. Rev. Letters)
- D. H. Douglass, Jr., A Phenomenological Theory of Superimposed Films of Normal and Superconducting Metals (Phys. Rev. Letters)
- R. O. Duda, On Resistive Networks with Optimum Circuit Reproducibility (Trans. IRE, PGCT)
- J. R. Melcher, Electrodynamical Surface Resonators (Phys. Fluids)
- W. A. Simmons and D. H. Douglass, Jr., Superconducting Transition Temperature of Superimposed Films of Tin and Silver (Phys. Rev. Letters)
- L. D. Smullin and W. D. Getty, Generation of a Hot, Dense Plasma by a Collective Beam-Plasma Interaction (Phys. Rev. Letters)
- S. Weinreb, An Attempt to Measure Zeeman Splitting of the 21-cm Hydrogen Line (Astrophys. J.)

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION (continued)

- S. Weinreb, A New Upper Limit to the Galactic Deuterium-to-Hydrogen Ratio (Nature)
W. M. Whitney and C. E. Chase, The Velocity of Sound in Liquid Helium at Low Temperatures (Phys. Rev. Letters)

TECHNICAL REPORTS PUBLISHED

(These and previously published technical reports, if available, may be obtained from the Document Room, 26-327, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.)

- 386 B. Josephson, Jr. and M. W. P. Strandberg, The Effect of Color Centers on the Nuclear Spin-Lattice Relaxation Time in Lithium Fluoride
398 H. J. C. Berendsen, Nuclear Magnetic Resonance Study of Collagen Hydration
401 S. K. Majumdar, The Wake of a Charged Particle Moving through a Plasma with Magnetic Field
403 J. L. Rosenfeld, Adaptive Decision Processes
404 B. Howland, W. H. Pitts, and R. C. Gesteland, Use of Electrochemiluminescence for Visualizing Fields of Flow
405 W. B. Nottingham, I. Ionization of Cesium at Surfaces
II. The Energy Distribution for Electrons in a Thermionic Diode Plasma Cannot Be Truly Maxwellian

SPECIAL TECHNICAL REPORTS PUBLISHED

(These monographs are available from The M. I. T. Press, 20B-120, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.)

- Number 5 H. L. Van Trees, Jr., Optimum Nonlinear Control Systems
Number 6 P. Penfield, Jr. and R. P. Rafuse, Varactor Applications
Number 7 R. D. Smallwood, A Decision Structure for Teaching Machines

SPECIAL PUBLICATIONS

- G. Bekefi, Emission of Microwaves from Plasmas (Proc. Third Symposium on the Engineering Aspects of Magnetohydrodynamics, Gordon and Breach, Science Publishers, Inc., New York)
M. Blum, Properties of a Neuron with Many Inputs (Proc. Bionics Symposium, Dayton, Ohio, 1960)

SPECIAL PUBLICATIONS (continued)

- M. Blum, The Construction of Infallible Nets with Unreliable Neurons (ONR Symposium on Principles of Self-Organization, University of Illinois, Monticello, Illinois, June 8-9, 1960)
- Mary A. B. Brazier, Normal and Abnormal Oscillatory Phenomena in the Electrical Activity of the Brain (Progress in Neurobiology.V. Neural Physiopathology, R. G. Grenell (ed.), Hoerber Medical Division, Harper and Brothers, New York, 1962), pp. 258-265
- J. D. Cowan, Many-Valued Logics and Homeostatic Mechanisms (ONR Symposium on Principles of Self-Organization, University of Illinois, Monticello, Illinois, June 8-9, 1960)
- J. D. Cowan, Toward a Proper Logic for Parallel Computation in the Presence of Noise (Proc. Bionics Symposium, Dayton, Ohio, 1960)
- G. Fiocco, Some Applications of Optical Radar to Astronomical and Geophysical Research (NEREM 1962 Record)
- W. S. McCulloch, What Puzzles Me Most? (ONR Symposium on Principles of Self-Organization, University of Illinois, Monticello, Illinois, June 8-9, 1960)
- W. S. McCulloch, M. A. Arbib, and J. D. Cowan, Neurological Models and Integrative Processes (Proc. Second Conference on Self-Organizing Systems, May 22-24, 1962, Spartan Books, Washington, D.C.)
- W. S. McCulloch, Anastomotic Nets Combatting Noise (Chapter XII, Information Storage and Neural Control, edited by Fields and Abbott, Charles C. Thomas Publisher, Springfield, Illinois, 1962)
- M. A. Arbib, Appendix A – Introduction to Chapter XII (Information Storage and Neural Control)
- W. S. McCulloch and W. H. Pitts, A Logical Calculus of the Ideas Immanent in Nervous Activity (Appendix A, Chapter XII, Information Storage and Neural Control)
- L. A. M. Verbeek, Analysis and Synthesis of Error-Minimizing Neuronal Nets Liable to Deaths and Fits (ONR Symposium on Principles of Self-Organization, University of Illinois, Monticello, Illinois, June 8-9, 1960)
- L. A. M. Verbeek, Reliable Computation from Unreliable Circuitry (Proc. Bionics Symposium, Dayton, Ohio, 1960)

