THE FINITE STRING

Released for publication March 3, 1978.

The delay in completion of the 1977 run of this Journal is
due to the Editor's desire to include a substantial number
of technical contributions. A decrease in the rate of ar-
rival of manuscripts for consideration, together with a
continuing high rate of rejection by the Editorial Board,
resulted late in 1977 in an absolute lack of technical-
manuscripts ready for publication. Young's contribution
was accepted in October 1977; the present issue went to
press immediately upon receipt of Sondheimer's finished
article.

The alternatives open to the Association are a smaller
Journal, publication of contributions presently considered
to require revision, or a vigorous campaign to stimulate
more submissions. The present Editor, whose term expires
when the 1978 run is complete, is conducting a small-scale
campaign. Beyond that, decisions and action lie with the
officers and members of the Association.

American Journal of Computational Linguistics

C O N T E N T S

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After obtaining an A.B. from Dartmouth College and an M.S. from the Thayer School of Engineering, Dr. Allen studied mathematics at Cambridge in 1957-58 on a Henry Fellowship In 1968 he obtained his Ph.D. from the Massachusetts Institute of Technology for a dissertation on A Study of the Specification of Pro- Features of Speech from a Grammatical Analysis of Printed Text. He is a member of Phi Beta Kappa, Tau Beta Pi, and Sigma Xi.

He has worked on computer design with the Ramo-Wooldridge Corporation and Space Technology Labs. In four-and-a-half years at Bell Telephone Laboratories (1962 - 1967) he was involved with the design and management of computer-based testing facilities and was promoted to Supervisor of Human Factors Engineering. Dr. Allen joined the Department of Electrical Engineering and Computer Science at MIT in 1968 and was promoted to Full Professor in 1975.

The editor of Scientists, Students, and Society (MIT Press 1970), Dr. Allen has published technical papers on topics including synthesis of prosodic features, reading machines for the blind, architecture for signal processing, synthesis of speech from un- restricted text. He is also interested in speech recognition, discourse structure and the relation of speech to linguistic structures.

BERTRAM C. BRUCE

A dissertation on the logical structure of temporal references, in which the CHRONOS question-answering system was explicated, earned Dr. Bruce his doctorate in 1971 from the University of Texas at Austin. After three years in the Computer Science Department at Rutgers he joined Bolt Beranek and Newman, Inc. where he worked on pragmatics, discourse structure, and response generation for the Speech Understanding project. He is currently working in the Center for the Study of Reading, established jointly by BBN and the University of Illinois at Urbana-Champaign, where he is applying artificial intelligence · and cognitive psychology models to reading processes.

RONALD M. KAPLAN

Educated at Harvard, Dr. Kaplan took his doctorate in psychology in 1974 for a dissertation on <u>Transient Processing Load in Relative Clauses</u> He has contributed to the design of several well-known systems: the MIND system at The RAND Corporation, the LUNAR system at Bolt Beranek and Newman, and the cognitive simulation model of the Lindsay-Norman-Rumelhart research group at the University of California, San Diego. He is presently a member of a group developing systems for the representation of knowledge at Xerox PARC.

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Educated at Stanford and MIT, John L. Bennett has been Manager
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user oriented systems   He has taught at Stanford, chaired the
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and has been a chapter reviewer for the Annual Review of Infor-
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Dr. Chafe has been in the Department of Linguistics at Berkeley
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cated at Yale, receiving a Ph.D in linguistics in 1958, has

Worked with the Department of State, and was employed as a specialist in American Indian Languages with the Bureau of American Ethnology of the Smithsonian Institution. His book <u>Meaning and the Structure of Language</u> was published by the University of Chicago Press in 1970 Current interests: knowledge representation, frames, speech production, the relation between linguistic and cognitive structures and processes, particularly those involved in the recall and verbalization of past experience.

RAYMOND REITER
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With a BA and an MA from the University of Toronto, Dr. Reiter went on to earn a Ph.D. from the University of Michigan in 1967. Dr. Reiter was awarded a National Research Council of Canada Post Doctoral Fellowship and then joined the faculty of the University of British Columbia in 1969. His publications include articles on parallel computations, theorem-proving, self-modifying' programs, question-answering, and anaphora. Dr. Reiter's interests lie in logic and its relevance to computational linguistics, including formal semantics and meaning representation and the application of formal inferencing methods to natural language.

CHARLES J. RIEGER III
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After obtaining a Ph.D. from Stanford in 1974 Dr Rieger joined the faculty at Maryland. In the Fall of 1975 he was at the MIT AI Laboratory and he has consulted for a number of government

agencies. He has published in a variety of journals and collections and has lectured widely. Dr. Rieger is currently working on control structures for inference and a children's story comprehension model which involves a visual parser to make emotion and action inferences from facial features and body postures.

YORICK WILKS
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Currently a Reader in Theoretical Linguistics, Dr Wilks was educated at Cambridge where he obtained his Ph.D. in 1968. His career has spanned three continents (Europe, Africa, North America) He has published many articles in computational linguistics, artificial intelligence, and philosophy; his book on Grammar, Meaning and the Machine Analysis of Language was published in 1972 and he recently co-edited Computational Semantics with Eugene Charniak. Dr. Wilks's current interests involve the relations between linguistics and AI, case structures, text grammars and frames, logic and language, the possibility of a "Wittgensteinian linguistics," and the philosophical and methodological foundations of all the above.

ASSOCIATION for COMPUTATIONAL LINGUISTICS

A N N U A L   M E E T I N G

JULY 25 - 27, 1978
UNIVERSITY OF ILLINOIS, URBANA/CHAMPAIGN

The 1978 annual meeting will take the form of a second "Theoretical Issues in Natural Language Processing," and is jointly sponsored by ACL and SIGART the Special Interest Group on Artificial Intelligence of the Association for Computing Machinery (pending confirmation by ACM). The conference will immediately precede the Summer meeting of the Linguistic Society of American and will be held in the context of the Summer Linguistic Institute.

TINLAP-2 aims to bring together for mutual benefit researchers in computational linguistics, artificial intelligence, cognitive science, linguistics, psychology, and philosophy. It will follow the general format of the first TINLAP Workshop. The conference will consist of six sessions, one each morning and one each afternoon for the three days. Each session will be organized around sets of questions, like the ones listed on the following pages. A session will have six to seven participants, five invited and one or two included on the basis of the quality of submitted papers. Invited speakers will be chosen to provide a diversity of perspectives. The papers will be available in a bound volume before

the sessions begin. Authors will have 15 minutes to comment on their own or others' papers; the rest of each session will consist of discussions among the participants and the audience.

All authors will be notified of acceptance or nonacceptance of their papers by 1 April 1978. Camera-ready copies of all papers must be received by 15 May, 1978. Please specify the session toward which your paper is directed.

Further details on registration, lodging, etc , will be distributed when arrangements are complete

Address queries to·

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ACL Annual Meeting
Session Descriptions

LANGUAGE REPRESENTATION AND PSYCHOLOGY

CHAIR TO BE FILLED

Psychological accuracy of formalisms: Empirical methods, significance. Parallel hardware and comprehension models. Generality of formalisms. Unsolved problems.

LANGUAGE REPRESENTATION AND REFERENCE

CHAIR: BONNIE NASH-WEBBER, BOLT BERANEK AND NEWMAN

Entities which can be referred to provide prime evidence for the underlying representation of extended discourse. Functions of descriptions: Inference and reference. Attention and visualization. Anaphora; construction of referring expressions.

LANGUAGE AND PERCEPTION

CHAIR: DAVID WALTZ, UNIVERSITY OF ILLINOIS

Natural language primitives and perceptual entities. Visual imagery. Representations. Development of schemata. Possibility of a system to learn language by experience.

INFERENCE MECHANISMS IN NATURAL LANGUAGE

CHAIR: ARAVIND JOSHI, UNIVERSITY OF PENNSYLVANIA

Use of multiple descriptions of entities. Presuppositions: representation and use in understanding, response generation.

DISCOURSE: SPEECH ACTS AND DIALOGUE

CHAIR: BARBARA GROSZ, SRI INTERNATIONAL

Models of self, other, 'contract', domain. Elements of models: Beliefs, goals, current topic constituents. Domain dependence. Signals. Production and comprehension. Intonation, body language. Coherence. Reading between the lines.

COMPUTATIONAL MODELS AS A VEHICLE FOR THEORETICAL LINGUISTICS

CHAIR: RON KAPLAN, XEROX PALO ALTO RESEARCH CENTER

What traditional means cannot do. Aspects of linguistics not yet caught in computation. Paradigm shift. Problems appropriate for each discipline.

ASSOCIATION FOR COMPUTATIONAL LINGUISTICS·

TINLAP-2 PROCEEDINGS SUPPLEMENT

We regret to announce that a decision has been made not to issue the second volume of THEORETICAL ISSUES IN NATURAL LANGUAGE PROCESSING, which was to have contained edited transcripts of the discussions that took place at the TINLAP Workshop in Cambridge, Massachusetts, 10-13 June 1975. Copies of TINLAP-1, the papers prepared for that Workshop, are still available at $7.50 prepaid from the address below. Add $1.50 for first class mail delivery within the United States and Canada; add $3.50 for air mail delivery overseas.

Refunds have been sent to all for whom we have a record of payment. However, our records may be incomplete, and it is likely that addresses have changed for some people. Those who have paid but do not receive a refund soon should send proof of payment to the address below.

We apologize for the delays in arrive at this decision, for any inconvenience people may have sustained, and for the confusing signals that have been issued in relation to TINLAP-2.

DR. DONALD E. WALKER. ACL

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MICHEL CHAFCOULOFF

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REVIEWED BY ANDRÉ MALÉCOT
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The transition from hardware to software in experimental phonetics is now virtually complete. Pattern playbacks and other equipment of that period lie silent in darkened laboratories collecting dust, only to be awakened occasionally to amuse visitors or to demonstrate to students. For a few magic moments the sounds of the most fruitful period in that field of research are heard again, but mostly the apparatus remains as inert museum pieces. Only those who shared in the breakthroughs of the 50 s take them seriously--the activity has now shifted to the computer room. It is therefore timely and fitting that a comprehensive bibliography, such as this one

with an analysis of the studies that proved to be milestones of that period, should appear at this point in time.

This excellent work, by a member of the Phonetics Institute of the University of Provence at Aix-en-Provence, contains some 2000 titles and detailed summaries of work carried on over a period of 25 years (1949-1974) in four areas: apparatus for synthesizing speech, the synthesis of phonemes, the synthesis óf prosodic features and speech perception. Chafcouloff uses several earlier bibliographies as his point of departure, such as those of Simmons and Köster, plus the bibliographical indications given in the works of Fant, Flanagan and others. The vastness of the project of course precluded a commentated bibliography, but the discussions at the beginning of each section are, in our opinion, not only interesting reading but highly informative as well. The bibliography is intended as a tool for researchers but makes no pretense of being exhaustive. In fact, a number of items were purposely omitted, particularly those where it was not clear whether the techniques in question involved synthetic input. All this is explained in a brief introduction.

The first section, entitled "Synthèse générale et appareils de synthèse," begins with a brief history of speech synthesis, both bona fide and fraudulent, and includes such figures as Kratzenstein (1782), Von Kempelen (1791), Faber (1835), Koenig (1882), Helmholtz (1885), Stumpf (1926), Paget (1930) and Fletcher (1924). The remainder of the discussion preceding the bibliography is divided into five sections, the first four dealing with different types of synthesizers, the last with the high points of research accomplished with them. The following general types are described and discussed with respect to how they can be used in phonetic research: the Vocoder and its variations, formant

synthesizers, vocal analogs and spectrographs   (Playback-type synthesizers).

Over 1400 items follow.

The second section, "Synthèse et sons du langage," deals principally

with the research accomplished at three laboratories (Haskins, the Speech

Communications Department at M.I.T. and R.I.T., Stockholm), but the work of

lesser known centers, such as those at Edinburgh, in Japan and the Bell

Telephone Laboratories, are also included. The bibliography that follows

contains nearly 600 items.

The third section, "Synthèse et études prosodiques" takes as its point

of departure Mettas' meticulously documented review of techniques for studying

intonation (Les techniques de la phonétique instrumentale et L'intonation,

P.U.B., 1971). Attention is focused on three areas, namely stress, tones and

intonation models. With respect to the latter there is understandably a parti-

cularly good coverage of the fine work done by Chafcouloff's colleagues at

Aix-en-Provence. Since this area has been the least studied, it is not

surprising that the bibliography that follows should contain less than 150

works.

The fourth section, "Synthese et perception," is one of the most interesting

from this reviewer's point of view because it deals with a number of fundamental

aspects of perception. The three areas outlined by Chafcouloff are 1) the

study of modes of speech perception, 2) abnormalities in speech perception,

and 3) studies on the intelligibility of synthetic speech. This section thus

belongs more in the realm of psychology than it does to traditional phonetics.

Such questions as categorical/non-categorical perception of phonemes and the

conceptual/perceptual differences between vowels and consonants are discussed.

Over three hundred bibliographical items follow.

The book ends with a very brief conclusion, an index of abbreviations and a table of contents. In short, this work is a much needed, very well conceived and interestingly written useful guide to what some nostalgically term the "golden age of acoustic phonetics."

I N F O R M A T I O N -- P O L I T I C S

PROCEEDINGS OF THE ASIS ANNUAL MEETING, VOLUME 13

SUSAN K. MARTIN, COMPILER

REVIEWED BY GERARD SALTON
Department of Computer Science
Cornell University
Ithaca, N.Y. 14853

The Proceedings of the ASIS National Meeting for 1976 appear in two parts. a hard-copy section containing about 160 abstracts; and a microfiche section of ten fiches, or about 900 frames (pages), containing the full text of over 100 of the presentations made at the meeting. Both the microfiche and hard-copy sections are indexed. This dual publishing mode may be a rational way of producing conference proceedings, if indeed such proceedings must be published at all. Because of the great bulk of the material under consideration, it was not possible in preparing this review to look at all the published papers. The reviewer must confine himself to presenting a few subjective impressions obtained from a somewhat cursory perusal of the proceedings and from his attendance at many of the oral presentations at the conference itself.

Ostensibly the meeting dealt with information and policies. There were, in fact, four invited papers in this area on policy analysis versus information systems (the former being creative, the latter apparently largely passive); on the role of privacy in a national information policy; on national policies for libraries and information systems; and finally on the incipient European Information Network (Euronet). This reviewer's feeling is that the political side of the information field is barren. There is in fact no national information policy — one of the contributed papers is appropriately entitled "The Myth of the National Information Plan" — and very likely there will be no such policy in the future. Too many vested interests are at play, and the people in charge are unable and unwilling to cut through the mess. As to the Euronet concept, this paper creation will remain just that for a good long while.

A number of contributions dealt with policy-like questions (copyright, privacy, ethics, etc.) and with information services (systems for energy, medicine, developing countries, and so on). The great bulk of the papers had, however, little to do with politics, but covered hardware concepts (minicomputers, video tape, intelligent terminals), novel publishing modes, and education (should the information science curriculum be independent. of library school accreditation committees?). There was even a paper dealing with the Russian wheat deal of 1972 — maybe this particular contribution was appropriately classified under politics and information after all.

How should the prospective reader approach a volume of proceedings such as this? The best policy is to stay away; the few worthwhile items will surely appear in the journal literature sooner or later. If you

insist on obtaining an overview of the information field, a look through

the whole volume will be properly confusing and disconcerting

My own, iconoclastic list of papers worthy of further study includes

items on the Northwestern University library circulation system (D.P. Brooks),

retrieval activities in public libraries (O. Firschein and R.F. Summit),

search key evaluation (E.T. O'Neill and J. Llinas), utility-theoretic

information measures (W.S. Cooper), combined numeric text retrieval systems

(R.C. Simon), fuzzy set theory (the paper by L.A. Zadeh is however not

included in the microfiche version), ientific productivity evaluation

(R.C. Coile), search performance evaluation (L.F. Hitchingham), and novel

technology transfer systems (P. Davis and W. Sachs).

To end on a positive note, it should be said that the volume of

abstracts is well-produced and easy to use.

T A X O N O M Y:

C O M P U T E R   S C I E N C E AND E N G I N E E R I N G

ANTHONY RALSTON
Department of Computer Science
State University of New York at Buffalo
4226 Ridge Lea Road
Amherst, NY 14226

With support from the Institute of Computer Science and Technology of the National Bureau of Standards, the Air Force Office of Scientific Research and the Office of Naval Research, a committee of nine people (see below) plus a number of consultants is engaged under the auspices of AFIPS in developing a taxonomy of computer science and engineering (CS and E). The major purpose of this taxonomy is to create a document which can be used by those outside the discipline to grasp what the discipline of CS and E - or some portion of it - is. In addition, the taxonomy should serve those in the discipline by providing a standard set of terminology and classifications to be used for a variety of purposes. These include the definition of educational programs and perhaps categories for research funding.

The work on the taxonomy should be completed some time in 1978 and it should be published (by AFIPS Press) no later than early 1979. The form of the presentation will probably be:

- a taxonomy tree in outline form (with cross

references) which presents the basic structure

- a repeat of this tree with each technical term in

the tree being followed by a (relatively brief)

definition

a lexically ordered index with pointers to terms

and their definitions.

Additionally, there will be a number of essays describing the committee's philosophy and addressing particularly difficult or controversial questions considered by the committee.

Reproduced below is the Working Definition of CS&E which the committee is using as guidance on what to include, what not in CS&E. Also reproduced below are the first two levels of the second iteration of the complete tree

Computational linguistics (CL) creates some particularly knotty problems in developing a taxonomy of CS&E. My current position is that CL is not part of CS&E and therefore should not appear explicitly in the taxonomy. However, portions of CL certainly overlap CS&E in, at least, Artificial Intelligence, Automatic Information Storage and Retrieval and Formal Language Theory. Portions of the current version of the taxonomy tree which deal with these areas are shown below. The committee would be most interested in the opinions of the readers of AJCL on this specific subject (or on any other aspect of the taxonomy.

T H E   C O M M I T T E E

Anthony Ralston, SUNY at Buffalo (Chairman)

Harold Borko, UCLA	George Glaser, Consultant
Sam Conte, Purdue	Gerard Salton, Cornell
Patrick Fischer, Penn State	Jean Sammet, IBM
Bernard Galler, Michigan	Stephen Yau, Northwestern

WORKING DEFINITION - COMPUTER SCIENCE AND ENGINEERING

Preamble

The purpose of this definition is to delineate those subject areas which are a legitimate part of the entity "Computer Science and Engineering." The point of view which informs this definition is that those subject areas - and only those - should be included in which the computer - as a real or abstract entity - is the dominant element in research, development and related scholarly activities.

Definition

Computer science and engineering includes all subject matter normally subsumed under the following rubrics:

            COMPUTER SOFTWARE
            COMPUTER HARDWARE
            COMPUTER SYSTEMS
            THEORY OF COMPUTATION
            ECONOMICS OF COMPUTERS
            HISTORY OF COMPUTERS
            EDUCATION IN CS&E
            LEGAL, MANAGEMENT, PROFESSIONAL, and SOCIETAL
                  ASPECTS OF COMPUTING

and, as indicated, portions of the subject matter of:

            MATHEMATICS OF COMPUTER SCIENCE AND ENGINEERING
                (namely: much but not all of Numerical Mathematics; some of Automata and Switching Theory; only Random Number Generation and related topics from the general domain of Statistics)

            COMPUTER METHODOLOGIES (namely: those methods and techniques with wide applicability such as, but not restricted to, Artificial Intelligence, Symbol Manipulation (algebraic etc.), Image Pro-

cessing, Searching and Sorting, Pattern Re-
cognition. Automatic Information Processing
(including storage and retrieval systems,
Data Base Systems)

APPLICATIONS (those traditionally (?!) considered
part of the discipline, which would disappear
or almost so if the computer disappeared, such
as, but not restricted to, Data Processing, CAI,
and related Text Processing Applications).

TREE OUTLINE

1. Hardware

    1.1 Types of Computers
    1.2 Computer subsystems
    1.3 Peripheral devices
    1.4 Data entry devices
    1.5 Terminals
    1.6 Hardware design
    1.7 Performance and reliability
    1.8 Implementation Technology
    1.9 Computer architecture

2. Computer Systems

    2.1 Structure-based systems
    2.2 Access-based systems
    2.3 Special purpose systems

3. Software

    3.1 Tools and techniques
    3.2 Programming systems
    3.3 Data and file organization and management

4. Mathematics of Computer Science and Engineering

    4.1 Numerical mathematics
    4.2 Mathematical statistics and probability

5. Theory of Computation

    5.1 Switching and automata theory
    5.2 Formal languages
    5.3 Logic of computer programming

5.4 Formal semantics of programs
5.5 Logic of computer programming
5.6 Computer Models
5.7 Computational complexity

6. Methodologies

6.1 Algebraic manipulation
6.2 Artificial intelligence
6.3 Automatic information storage and retrieval
6.4 Data base management systems
6.5 Image processing
6.6 Pattern recognition
6.7 Simulation and modeling
6.8 Sorting and searching
6.9 Computer graphics

7. Applications

7.1 Business data processing
7.2 Scientific data processing
7.3 Computer-assisted instruction
7.4 Text processing
7.5 Other

8. Computing Milieux

8.1 Economics of computing
8.2 Education and computing
8.3 History of computing·
8.4 Legal aspects of computing
8.5 Management of computing
8.6, The computing profession
8.7 Social effects of computing

DETAILS OF TREE BRANCHES RELEVANT TO COMPUTATIONAL LINGUISTICS

5.2 Formal languages

5.2.1 Grammars

5.2.1.1 Type G
5.2.1.2 Type 1 (Context Sensitive)
5.2.1.3 Type 2 (Context Free)
5.2.1.4 Type 3 (Left Linear)
5.2.1.5 The Chomsky hierarchy

5.2.2 Parsing of context-free languages
5.2.3 Pushdown automata

5.2.3.1 Deterministic
5.2.3.2 Variants
5.2.3.3 Nondeterministic

5.2.4   Grammars vs. automata

      5.2.4.1   Type 0 vs. Turing machines (see 5.6.1)
      5.2.4.2   Context sensitive vs. nondeterministic LBA's
      5.2.4.3   Context free vs. nondeterministic PDA's
      5.2.4.4   Left-linear vs. finite automata (see also 5.1 3.3)

5.2.5   Decidable and undecidable properties
5 2 6   Closure properties

6.2.4   Natural language processing

      6.2.4.1   Speech understanding
      6.2.4.2   Parsing ?
      6.2.4.3   Discourse analysis
      6.2.4.4   Sentence generation
      6.2.4.5   Discourse construction
      6.2.4.6   Speech production

6.3.6   Linguistic processing

      6.3.6.1   Grammatical devices

            6 3 6 1.1   Phrase structure grammar
            6.3.6.1.2   String grammar
            6.3.6.1.3   Procedural grammar
            6.3.6.1.4   Augmented transition network
            6.3.6.1.5   Transformational grammar

      6.3.6 2   Semantic devices

            6.3.6.2.1   Case grammar
            6 3.6.2.2   Semantic net

      6.3.6.3   Combined syntactic-semantic systems

COLING 78

AUGUST 14 - AUGUST 18, 1978

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HOSTS: NORDIC INSTITUTE, DEPARTMENT OF COMPUTATIONAL TEXT PROCESSING

INSTITUTE FOR INFORMATION SCIENCE

UNIVERSITY COMPUTER CENTRE

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** Applications of Natural Language Processing: Machine Translation, Machine Aided Translation, Man-machine Communication, Question-Answering, Speech Understanding, Text Analysis, etc.

** Automated Processing of Linguistic Data Collections: Lexicology and Lexicography; Philological, Literary, Stylistic Studies; Textual and Statistics Processing; Archives, etc.

Prof. A. Zampolli, Chairman
Scientific Program Committee
COLING 78
Via A. Maria 36
56100 PISA, ITALY

Preprints will be available at the conference.

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AUGUST 2 - 4, 1 9 7 8

THE TECHNION, HAIFA, ISRAEL

GENERAL CHAIRMAN: ALLEN REITER, Technion, Department of Computer Science

PROGRAM CHAIRMAN: BEN SCHNEIDERMAN, University of Maryland, Department of Information Systems Management, College Park, 20742

Data Manipulation Languages	Data Description Languages
Query Languages and Facilities	NL Dialogue with DB System
System Reliability	File Organization to Improve Response
Access Methods	
New Hardware/Software Architectures	Simulation Techniques for Improving Performance
Human Factors	Application Development Methodologies
Systems Evaluation	

REGISTRATION FEE: $80 (should be sent to Dr. Reiter)

Correspondence regarding the conference should be directed to:

> The Organizing Committee
> Prof. A. Reiter
> Department of Computer Science
> Technion
> Haifa, ISRAEL

UPCOMING CONFERENCES

COMPUTER TECHNOLOGY: THE EDUCATIONAL CATALYST

ASSOCIATION FOR EDUCATIONAL DATA SYSTEMS
15 - 19 May 1978
Atlanta, Georgia

Contact: Dr. James E. Eisele, Office of Computing Activities
University of Georgia, Athens 30602

1978 INTERNATIONAL CONFERENCE ON PARALLEL PROCESSING

Sponsorship: IEEE-CS and Wayne State University

22 - 25 August
Bellaire, Michigan

Contact: Prof G.J. Lipovski, Department of Electrical
Engineering, University of Texas, Austin 78712

COMPCON 78: COMPUTER COMMUNICATIONS NETWORKS

IEEE COMPUTER SOCIETY

5 - 8 September
Washington, D.C.

Contact: COMPCON Fall 1978 Conference, P.O. Box 639
Silver Spring, MD. 20901

CONVENTION INFORMATIQUE: International Conference on Data
Processing

18 - 22 September
Paris

Contact: Convention Informatique, 6, place dr Valois,
75001 Paris, FRANCE

PATTERN RECOGNITION AND IMAGE PROCESSING

IEEE Computer Society

5 - 7 June 1978
Chicago, IL

Contact: K. Preston, Jr., Department of Electrical Engineering
Carnegie-Mellon University, Pittsburgh, PA 15213

W O R K S H O P S:

NATURAL LANGUAGE PROCESSING AND ARTIFICIAL INTELLIGENCE AT YALE
26 JUNE TO 21 JULY 1978

Courses include:

Representation of Meaning and Representation of Knowledge
    ROGER C. SCHANK

Beliefs and Understanding in Psychology
    ROBERT P. ABELSON

Inferences and Knowledge in Understanding
    WENDY G. LEHNERT & EUGENE CHARNIAK

Programming in Artificial Intelligence
    DREW V. MCDERMOTT & CHRISTOPHER RIESBECK

APPLICATION DEADLINE: 15 MARCH 1978

PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE
APRIL 12 - 14; 1978
PRINCETON, NEW JERSEY

SPONSORSHIP: Technical Committee on Machine Intelligence and
              Pattern Analysis, IEEE-CS

TOPICS: Statistical techniques for pattern analysis and recognition
          Applications in medical diagnosis
          Image processing and scene analysis
          Industrial and laboratory automation
          Speech Understanding and Recognition
          Environmental and social problems
          Roles of mini- and micro-computers

CONTACT: Prof. T. Pavlidis, 1978 PR-AI Workshop, Department of

         Electrical Engineering and Computer Science.

         Princeton University Princeton, NJ 08540

1978 LINGUISTIC INSTITUTE

JUNE 12 TO AUGUST 5
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

LANGUAGE FORM AND LANGUAGE FUNCTION: A WESTERN AND NONWESTERN
PERSPECTIVE

The 1978 Linguistic Institute will be jointly sponsored by the
University of Illinois at Urbana-Champaign and the Linguistic
Society of America. It is being planned a coordinated by the
Department of Linguistics and the Division of Applied Linguistics,
UIUC, in cooperation with the Office of Continuing Education and
Public Service. The Linguistic Society of America's Summer
Meeting, held July 28-30, will coincide with the end of the
Institute.

The range of courses, which will bear University of Illinois cre-
dit, will cover theoretical, applied, and area-specific topics.
In the area-oriented courses concentration will be on AFRICAN,
SOUTH ASIAN, and WEST ASIAN languages and linguistics, which is
consistent with the Department of Linguistics and the Division
of Applied Linguistics at the University of Illinois.

COURSES WILL BE OFFERRED UNDER THE FOLLOWING CATEGORIES:

INTRODUCTORY COURSES	PHONOLOGY
PHONETICS	SYNTAX & SEMANTICS
HISTORICAL LINGUISTICS	SOCIOLINGUISTICS
BILINGUALISM/BICULTURALISM	PSYCHOLINGUISTICS
LANGUAGE POLICY	LINGUISTICS & READING
STYLISTICS	TYPOLOGY
LEXICOGRAPHY	ROMANCE LINGUISTICS
INDIAN GRAMMARIANS	AREA-ORIENTED COURSES

LINGUISTICS AND TESL

MATHEMATICAL AND COMPUTATIONAL LINGUISTICS

Introduction to Computational Linguistics

Chin-Chuan Cheng, University of Illinois

Introduction to Mathematical Linguistics

Robert B. Lees, Tel-Aviv University

Computers in Linguistics and Literary Style

James W. Marchand, University of Illinois

Courses on STRUCTURES OF LANGUAGES have been proposed for:

Algonquin Languages	Arabic
Bantu Languages	Biblical Hebrew
English	Hindi
Modern Hebrew	Sanskrit

INTENSIVE LANGUAGE PROGRAM: Instruction in:

Arabic	Modern Hebrew
Hausa	Persian
Hindi	Spoken Sanskrit
Lingala	Swahili
Marathi	Wolof
Biblical Hebrew	Quechua

For further details write:

Prof. Eyamba Bokamba
Language Coordinator
Dept. of Linguistics
U. Of Illinois
Urbana, IL 61801

WORKSHOPS, SYMPOSIA, CONFERENCES

A number of workshops, symposia, and conferences are being organized. A partial list is given below. Further details may be requested from the person whose name is given as the main organizer

Conference: ENGLISH in the THIRD WORLD, Braj Kachru, U. Illinois
            ORIGIN of LANGUAGE, W.O. Dingwall, U. of Maryland
            SOUTH ASIAN LANGUAGES & LINGUISTICS,
                    Braj Kachru & Hans Hock, University of Illinois
            SEMIOTICS, Irmengard Rauch, University of Illinois
Symposium: PRAGMATICS, George Green & Jerry Morgan, U. Illinois
            ROMANCE LINGUISTICS, Dieter Wanner, U. of Illinois
            LANGUAGE POLICIES in AFRICAN EDUCATION,
                    Eyamba Bokamba, University of Illinois
Seminar in BILINGUAL LEXICOGRAPHY, Ladislav Zgusta, U. of Illinois

The Division of Applied Linguistics is planning a workshop on
LANGUAGE POLICY AND PLANNING.

FURTHER INFORMATION

Scholarships and Financial Aid:

> LSA Secretariat
> FELLOWSHIPS
> 1611 North Kent Street
> Arlington, VA 22209

Admission to the Institute and other details:

> Braj B. Kachru, Director
> 1978 Linguistics Institute
> Department of Linguistics
> 408 Foreign Languages Building
> University of Illinois
> Urbana, IL 61801

> (217) 333-6492

ɑͰɨͰ Washington Report

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Vol. IV, No. 2   February, 1978

WASHINGTON DEVELOPMENTS

NO OMNIBUS EFT LEGISLATION PREDICTED FROM CONGRESS

There will be no omnibus electronic funds tranfer (EFT) legislation on
recommendations contained in the Final Report of the National Commission
on Electronic Fund Transfers (NCEFT) (*Washington Report*, 11/77, p. 1),
according to a consensus of banking sources consulted recently by the
AFIPS Washington Office.

Regulatory Bodies May Intervene: Banking Sources. Unlike the Privacy
Protection Study Commission which (through its Final Report) precipitated
the introduction of the *Omnibus Privacy Act* (see *Washington Report*, 1/78,
p. 4), the NCEFT had no Congressional participation. In addition, the
banking sources conclude, the strong views of different lobbying groups
in the EFT area will have a mitigating effect on any omnibus legislation.
(For example, the American Bankers Association and the Independent Bankers
Association of America disagree on whether automated teller machines should
be considered "brick and mortar" banks.) These same sources note that EFT
does not yet involve a substantial political constituency, and (as such)
will not command much attention from legislators. Finally, they suggested
that, with the lack of comprehensive EFT legislation, Federal and state
regulatory bodies may provide regulation.

S. 2065 to be 'Marked Up.' According to a Senate Banking Committee source,
the *Consumer Credit Protection Act*, introduced last September by Sen.
Donald W. Riegle (D-Mich.), will be "marked up" this year. The highly-
placed staff member contends that the Riegle legislation may be a "vehicle
for some of the consumer recommendations espoused by the NCEFT.

Four Additional EFT Bills Now Being Considered. To date, the Congress is
considering the following additional EFT legislation. *H.R. 8387*, introduced
last July by Rep. Mary Rose Oakar (D-Ohio), would provide "rules respecting
the use of depository institutions of EFT"; *H.R. 8753*, introduced last
August by Rep. Frank Annunzio (D-Ill.), is a bill amending the *Consumer
Credit Protection Act* "to safeguard consumers in the utilization of EFT
services, and to protect consumers in the utilization of credit cards";
H.R. 9870, introduced in November by Rep. Oakar, is almost identical to
H.R. 8387; and *S. 2293*, introduced in November by Sen. Thomas J. McIntyre
(D-N.H.), would "authorize and provide for the regulation of the use of
EFTS by financial institutions."

FRANCE, LUXEMBOURG CONSIDERING ESTABLISHMENT OF NATIONAL COMMISSIONS TO OVERSEE TRANSBORDER DATA FLOW

Legislative bodies in France and Luxembourg are considering establishment of national commissions to oversee the transmission of computer data across international boundaries (*i.e.*, transborder data flow).

In France, both the Senate and National Assembly, comprising the nation's Parliament, have voted to accept the major provisions of the *Data Processing and Freedom Act* including creation of a national commission to oversee transborder data flow, according to recent articles in *Computerworld*.

The Luxembourg Parliament is considering similar legislation. If enacted, even countries with DP systems outside of Luxembourg will be affected when data is remotely accessed inside Luxembourg.

Finally this month in Brussels, On Line Conferences of Uxbridge, England, is convening an international conference on the effects of privacy legislation in restricting transborder data flow.

NBS SEEKS COMMENTS ON PROPOSED USER-TERMINAL PROTOCOLS

The National Bureau of Standards (NBS) has published for review and comment a proposed standard for computer user-terminal protocols (#). The *Proposed Federal Information Processing Standard*, "User-Terminal Protocols--Entry and Exit Procedures Between Terminal Users and Computer Services," was published in the *Federal Register* (December 12, 1977, page 62408). The protocols permit a person at a keyboard terminal to send and receive standardized messages, allowing access to computer services available at the terminal, from one or more computer systems, over any type of communications facility.

The proposed standard protocol includes standardized user, system, and error messages; user and system signals; message sequences; and a list of definitions. It would apply to all user-terminal interactions, *i.e.*, where a Federal government user is seeking access to or exit from one or more computer services. The provisions of the standard would be mandatory, and would go into effect a year after formal promulgation.

NBS is seeking comments from interested parties, including the public, state and local governments, manufacturers, and service suppliers. Comments and questions should be addressed by March 13, 1978, to the associate director for ADP Standards, Institute for Computer Sciences and Technology, NBS, Washington, D. C. 20234.

CIVIL SERVICE COMMISSION ISSUES NEW RULES CONCERNING INTERACTION WITH PROFESSIONAL ASSOCIATIONS

The Civil Service Commission (CSC) has issued guidelines for Federal agencies regarding agency relationships with professional or other associations. In its *FPM Letter 252-1* (#), dated March 8, 1977, the CSC guidelines sanction the following types of interaction between agencies and professional associations: (1) Sponsoring research relating to the agencies' programs; (2) Acting as a "sounding board" for agency policy and legislative proposals; (3) Granting of privileges to an association, such as: use of agency messenger or mail service; use of agency bulletin boards for publicizing meetings; and use of agency facilities for meetings; (4) Facilitating, but not requiring, employee membership and participation in professional associations: use of agency equipment and clerical service for preparation of professional papers to be presented at conferences or published in journals; application of the *Government Employees Training Act* to pay fees and expenses of employees to attend professional conferences or symposia; and application of a "liberal policy" of excused absences for employees to attend free professional meetings, or for employees who are willing to pay their own expenses to attend professional conferences and symposia; and (5) Permitting employees (under special rules) to make an allotment of dues to a professional association.

The guidelines appeared in the December, 1977, *Federal ADP Users Group Newsletter*.

AFIPS IN WASHINGTON

'RECOMMENDED FUTURE DIRECTIONS' FOR ANSI COMMITTEE Z-39: REPORT RELEASED BY NCLIS TASK FORCE RECOMMENDS 'EXPANDED OPERATIONS'

Expansion of operations for and recognition of "information transfer" (*i.e.*, electronic-based technologies) by the American National Standards Institute (ANSI) Committee Z-39 were recommended in a recent report of a 13-person Task Force reviewing the activities and charter of the Z-39 Committee. The Z-39 Committee has formulated standards related to libraries and information science since 1939. Dr. Melvin Day, director, National Library of Medicine, served on the panel in an AFIPS affiliation.

In the report (#), entitled *American National Standards Committee Z-39: Recommended Future Directions* (*Washington Report*, 8/77, p. 5), approved for release in December, the Task Force recommended:

Changing the Committee's name from *Standardization in the Field of Library Work, Documentation, and Related Publishing Practices* to *Standardization in the Field of Information Transfer, Library Activities, and Related Publishing Practices;*

Restating the scope of the Committee to read: "To develop standards for information systems and their products, services, and utilization, particularly library, publishing, document delivery, information dissemination, and related systems for handling information and data in all media";

- Retaining the Council of National Library Associations (CNLA) as the Committee's Secretariat;

- Nominating an "expert in the field of information transfer" to the Information Systems Standards Management Board;

- Granting representatives of the Committee's member organizations the right to elect Committee officers; and

- Establishing a budget of $155,000 for the first year of "expanded operations."

The Task Force also concluded that, should CNLA be unable to implement the recommendations contained in the report, the Secretariat be incorporated in the American Library Association. In the event of "major problems" encountered in implementation of the recommendations, the report stated, the National Commission on Libraries and Information Science (NCLIS) should reconvene the Task Force "for consultation."

WASHINGTON OFFICE DIRECTOR PARTICIPATES IN WOODROW WILSON CENTER CONFERENCE

The director of the AFIPS Washington Office, Philip S. Nyborg, recently participated in a Washington conference sponsored by the Woodrow Wilson International Center for Scholars. The Center, which is chartered by Congress and is predominantly Federally-funded, is a memorial to President Wilson devoted to fostering dialogue between scholars and those involved in public affairs.

The conference, held in the U.S. Capitol Building and one of the Senate Office Buildings, addressed the concept of "public good" as it relates to the revision of the *Communications Act of 1934*. The meeting attracted participation of numerous Washington policymakers, including Sen. Mark O. Hatfield (D-Ore.) and FCC Commissioner Abbott Washburn. It was a requirement of the conference, however, that all viewpoints be expressed as individuals and not as representatives of participants' respective organizations.

In the course of discussion, Mr. Nyborg urged that direct regulation should not be used as a means of attaining the "public good," however that concept is defined. Rather, he said that broad government policy (*e.g.*, economic and tax policy) should be designed such that public good can be achieved

through the normal incentives of the free enterprise system; conversely, Nyborg urged that government take care not to adopt policies which might inadvertently create situations in which economic forces work against the pursuit of public good by private firms.

WASHINGTON OFFICE SURVEYS PROPOSED DOMESTIC LEGISLATION AFFECTING TRANSBORDER DATA FLOW

The AFIPS Washington Office last November surveyed domestic legislation which might limit the international flow of computer data, *i.e.*, transborder data flow. According to the legislative review, conducted by Research Associate Ponder M. McCarter, only *H.R. 1984*, the *Comprehensive Right to Privacy Act*, has a specific proposed limitation (see *Washington Report*, 1/78, p. 2) restricting the transfer of personal data beyond the U.S. Neither the 12 bills introduced in the House by Rep. Barry Goldwater, Jr. (R-Calif.) and former Rep. Edward I. Koch (D-N.Y.), after completion of the final report of the Privacy Protection Study Commission, nor the *Omnibus Right to Privacy Act* (incorporating these bills) contain similar limitations.

NEWS BRIEFS

The Federal Bureau of Investigation (FBI) is witholding information about the computerized National Crime Information Center's failure to meet requirements of the *Privacy Act of 1974*, according to an article in the December 19, 1977, issue of *Computerworld*; in addition, according to the General Accounting Office (GAO), computer files maintained by the Internal Revenue Service (IRS) do not employ adequate safeguards.

Two publications, *Copyright in Computer Readable Works: Policy Impacts of Technological Change* ($4.00; Stock Number 003-003-01843-1) and 1976 *Publications of the NBS* ($8.25; Stock Number 003-003-01743-4), are available through the U.S. Government Printing Office, Washington, D.C. 20402, or the AFIPS Washington Office; in addition, the American Association for the Advancement of Science (AAAS) has released its *Proceedings of the AAAS Colloquium on R&D in the Federal Budget*, available for $4.75 through AAAS at (202) 467-4400, or through the AFIPS Washington Office.

Papers covering all aspects of computing are being solicited by ACM for its *1978 Annual Meeting* in Washington, D.C., December 4-6, 1978; five copies of all papers and/or session proposals should be submitted by July 1st.

Pender M. McCarter, Editor

WASHINGTON DEVELOPMENTS

JUSTICE DEPARTMENT INITIATES ANTITRUST INVESTIGATION INTO FORMATION OF SBS

The Department of Justice last month initiated an investigation into whether the formation of Satellite Business Systems (SBS) violates Federal antitrust laws. Subpoena-like civil investigative documents (CIDs) have been served on the three SBS companies to obtain documents relating to the establishment and organization of SBS.

Background for the Investigation. Last January (*Washington Report,* 2/77, p. 4), the Federal Communications Commission (FCC) approved construction and operation of SBS, a domestic satellite (domsat) system for voice and data communications. IBM Corporation, Communications Satellite Corporation (Comsat), and Aetna Life & Casualty Company joined to form the consortium. Two similar partnerships, CMC Satellite Corporation and MCI-Lockheed Satellite Corporation, previously failed to win FCC approval.

Prior to the January Commission order establishing SBS, the Justice Department was unable to persuade the FCC to hold full evidentiary hearings weighing the potential effect of SBS on equipment manufacturers. Last month, Justice joined the consortium's potential competitors (*i.e.,* AT&T, Western Union and American Satellite Corporation) in requesting judicial review of the Commission's decision. The Department petitioned once again (now through the courts) for full evidentiary hearings to be convened by the FCC.

Purpose of the Investigation. The investigation centers on the intentions of both IBM and Comsat in entering the domestic satellite field. Justice is investigating: (1) whether IBM or Comsat considered entering the market separately; and (2) whether Comsat considered entering the market jointly with another firm, smaller than IBM.

In an interview last month with *AFIPS Washington Report,* Mr. Kenneth C. Anderson, who is pursuing the Department's investigation as chief, Special Regulated Industries Section, Antitrust Division, said Justice favors "many separate independent sources of domsat services." Mr.

Anderson added that if there is evidence to support a case against SBS, the case could result in "an independent IBM" and perhaps a Comsat aligned "with someone else." He stressed that the Department is not questioning IBM's original entry into the domestic satellite field.

Present Status. Requests for proposals (RFPs) for SBS earth stations are expected to be released soon, despite the investigation. RFPs have already been issued for construction of the system's satellites. Plans call for the launching of three SBS satellites in late 1980.

Both Comsat and Aetna have announced their intentions to comply with the CIDs. At press time, IBM had not yet announced its intentions. The Justice Department continues talks with all three parties.

AVAILABILITY OF R&D FUNDS FOR SCIENCE AND TECHNOLOGY MAY BE LIMITED BY CARTER ADMINISTRATION'S FISCAL POLICY: PRESIDENTIAL SCIENCE ADVISER

The availability of research and development (R&D) funds for science and technology may be limited by the Carter Administration's plans for a balanced budget in the next four years, said Dr. Frank Press, the Presidential Science Adviser, in a recent interview with the *New York Times*. Dr. Press has reportedly proposed the establishment of an OSTP Steering Committee on Basic Research in Mission Agencies to assess the value of Government research. The $24 billion Federal budget for science and technology is now said to represent six per cent of the gross national product (GNP), or about the equivalent of the percentage of GNP expended on science and technology 20 years ago.

In a wide-ranging interview with *The Times* in May, the Science Adviser said he considers his responsibilities to include resolving conflicts on scientific matters referred to the President, overseeing Federal science and technical programs, and developing "a coherent research and development plan." Press' nomination was confirmed by Congress April 27th.

CBEMA, ANSI, CCIA TESTIFY ON 'VOLUNTARY STANDARDS AND ACCREDITATION ACT'

The Senate Antitrust and Monopoly Subcommittee held hearings in May on the *Voluntary Standards and Accreditation Act of 1977*, introduced in the Senate March 1st by Sen. James Abourezk (D-S.D.). The bill, *S. 125*, would establish an Executive Branch National Standards Management Board to oversee the development of Federal standards, including those related to computers and information processing. It would also substitute a mandatory standards program for the present voluntary program of the American National Standards Institute (ANSI).

The Computer and Business Equipment Association (CBEMA) and ANSI opposed the bill at the hearings. CBEMA said the new legislation would impose excessive Federal regulation on the standards process. It added that

the bill, if enacted, would restrict innovation and market choice.
(Since 1960, CBEMA has served as Secretariat to ANSI.)   ANSI
supported increased enforcement of existing laws, in lieu of the pro-
posed legislation.   It also recommended that the Office of Management and
Budget establish criteria for more Government participation in volun-
tary, Federal standards activities.

The Computer and Communications Industry Association (CCIA) supported
the bill at the hearings.   CCIA contended that the public interest re-
quires Federal coordination of the standards process.   For example,
the association cited what it said is a lack of standards providing
for the interconnection of hardware and software.   CCIA added that
"smaller producers" are excluded from the voluntary standards making
process because of the "high costs" of participation.

NATIONAL ACADEMY OF ENGINEERING ELECTS 92 NEW MEMBERS

The National Academy of Engineering (NAE) last month announced elec-
tion of 92 new members to the Academy.   Members are recognized for
"[i]mportant contributions to engineering theory and practice, including
significant contributions to the literature of engineering . . . [d]e-
monstration of unusual accomplishments in the pioneering of new and
developing fields of technology . . . [and] professional integrity,
as well as . . . engineering accomplishments."

New NAE members in the information processing field include: John W.
Backus (IBM Corporation) ; C. Gordon Bell (Digital Equipment Corporation) ;
Richard E. Bellman (University of Southern California) ; Edward I.
Glaser (System Development Corporation) ; Kenneth H. Olsen (Digital
Equipment Corporation) ; Alan J. Perlis (Yale University) ; Jean E. Sammet
(IBM Corporation); Dean E. Wooldridge (Santa Barbara, California) ; and
Maurice V. Wilkes (University of Cambridge, England).

NSF DESCRIBES 'TECHNOLOGY ASSEMENTS IN SELECTED AREAS'

In a recent *Program Announcement* on "Technology Assessments in Selected
Areas" (#), the National Science Foundation (NSF) has specified guide-
lines for submission of preliminary and formal unsolicited proposals
for technology assessments.   Supported by NSF's Research Applied to
National Needs (RANN) program, the Foundation's Division of Exploratory
Research and Systems Analysis (ERSA) has allocated $1.5 million annually
toward the completion of technology assessments.

According to the NSF definition, a technology assessment "describes
technological choices, considers alternatives among technologies, and
gauges the impact of the choices made in terms of institutional con-
sequences."   Assessments are sought in substantive, methodological and
utilization categories.   The four themes for substantive assessments are:

(1) "Constrained Economy"; (2) "Rearrangement of Work and Social Act-
ivity Patterns"; (3) "Technologies that Affect Biological Systems"; and
(4) "Automation, Cybernetics and Information Flow." Methodological
studies would, NSF said, deal primarily with communicating and dis-
seminating the results of substantive technology assessments. Utiliz-
ation refers to incorporating assessment information into the decision-
making process.

Preliminary proposals are required prior to the submission of formal
proposals. First awards are expected in October. Further information
is available from NSF, ERSA, 1800 G Street, N.W., Washington, D.C. 20550.

TAX ADMINISTRATION SYSTEM RECEIVES TENTATIVE APPROVAL IN GAO REPORT

"Through proper design and implementation, the [Internal Revenue
Services' (IRS)] Tax Administration System [TAS] will be able to provide
a high level of protection for taxpayer information," according to a
recent Congressional General Accounting Office (GAO) report, commissioned
by Congress to insure that TAS complies with the *Privacy Act of 1974*
and other legislation. TAS provides on-line access to as many as five
years of taxpayers' records in each of 10 IRS service areas.

GAO noted (and IRS reportedly has corrected) weaknesses in existing
security procedures, methods and controls. GAO indicates that Congress
may want to consider restrictions on the use of TAS in conjunction with
other systems. The Congressional Office of Technology Assessment has
criticized TAS as representing a threat to individuals' Constitutional
right to privacy (see *Washington Report*, 4/77, p. 3).

The report, entitled *Safeguarding Taxpayer Information--An Evaluation of
the Proposed Computerized Tax Administration System*, Number LCD-76-115,
was issued January 17, 1977. It is available at no charge to non-profit
organizations through GAO at (202) 275-6241, or through the AFIPS Washington
Office.

AFIPS IN WASHINGTON

AFIPS DISTRIBUTING GRANTS INFORMATION TO SOCIETIES

The AFIPS Washington Office attended a New York University (NYU)
seminar on "Understanding and Obtaining Federal Grants," April 18-19,
1977, in Washington, D.C. The Washington Office summarized significant
information on Federal grants and compiled pertinent source materials.
These will be made available to AFIPS Societies upon request.

The seminar stressed obtaining grants through Government agencies
with less obvious but still important, smaller funding programs. It
also advised grant applicants to consider programs which do not

necessarily encompass the primary objectives of their major field.

Specific guidelines for obtaining scientific grants include:

- funding proposals ideally should be related to more than one national program goal;

- selection of a principal investigator with recognized credentials and established reputation, while not mandatory, will enhance funding possibilities;

- Proposals should be directed to the appropriate program within a funding agency; and

- a detailed research design should be discussed in advance, if possible, with the grantor agency.

Material collected at the seminar for distribution to the AFIPS societies includes: (1) excerpts from the *Catalog of Federal Domestic Assistance*, describing various Federal grants and Government programs; (2) an "all-purpose proposal" format (developed at the seminar); and (3) the Office of Management and Budget's "Uniform Administrative Requirements," listing regulations for grants and agreements negotiated with educational and other nonprofit organizations.

NEWS BRIEFS

The *1956 Consent Decree* between the U.S. Department of Justice and AT&T should not be modified to allow AT&T to participate in unregulated markets through a separate subsidiary, according to a Justice Department brief filed with the Federal Communications Commission (FCC) last month as part of the FCC's *Second Computer Inquiry*.

The General Accounting Office (GAO) has been directed by Rep. Lionel Van Deerlin (D-Calif.) and Rep. Louis Frey (R-Fla.), chairman and ranking minority member of the House Subcommittee on Communications, respectively, to "investigate the lack of coordination" among international communications policymaking bodies including: the FCC, the White House Office of Telecommunications Policy, the Commerce Department's Office of Telecommunications, and the State Department.

The Federal Home Loan Bank Board (FHLBB) in May approved a Georgia savings and loan's (S&L) application to establish a branch in Alabama, two and one-half miles from the S&L's home office; this limited, initial step toward interstate branching by S&Ls could conceivably encourage nationwide electronic funds transfer (EFT) among S&Ls; since 1967, savings and loans have been forbidden by the FHLBB to establish branches in states other than the one in which they are chartered to do business.

The Justice Department in April filed its first suit against an automated (check) clearing house (ACH), charging the Rocky Mountain ACH

with "unlawfully restricting access to its facilities"; a subsequent suit was filed in May by Justice against the California ACH.

In conjunction with a request by the Office of Science and Technology Policy for a "comprehensive review" of the President's Committee on Science and Technology and the Intergovernmental Science, Engineering and Technology Advisory Panel, President Carter has directed heads of the two bodies to justify their activities using zero-base budgeting.

A bill to extend until July, 1978, the life of the National Commission on Technological Uses of Copyrighted Works (CONTU) passed the House of Representatives in April.

Dr. Ruth M. Davis, director of the Institute for Computer Science and Technology, National Bureau of Standards, has been named Deputy Undersecretary of Defense-Designate for Research and Advanced Technology.

Emilio Q. Daddario has resigned as director of the Congressional Office of Technology Assessment.

The White House Office of Science and Technology Policy last month announced two new senior staff appointments: Mr. Benjamin Huberman, assistant director for National Security, International and Space Affairs; and Dr. Gilbert Omenn, assistant director for Human Resources.

The National Science Foundation (NSF) is seeking (by December 1, 1977) proposals for "research equipment" needed to conduct basic research in computer science or computer engineering at graduate degree-granting academic institutions; further information is available from Mr. Kent K. Curtis, head, Computer Science Section, Division of Mathematical and Computer Sciences, NSF, Washington, D.C. 20550.

Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Year 1975, 1976 and 1977 has been released by NSF, and is available for $1.45 through the Government Printing Office (GPO), Stock Number 038-000-00-310-1, at (202) 738-3238, or through the AFIPS Washington Office (enclose $1.45).

Computers in the Federal Government: A Compilation of Statistics, issued last month by the National Bureau of Standards, is available for $1.60 through the GPO, Stock Number 003-003-01-780-9, or through the AFIPS Washington Office (enclose $1.60).

The *Report of the Commission on Postal Service, April, 1977* (see *Washington Report*, 5/77, p. 1) is now available free-of-charge through the U.S. Postal Service Library, Washington, D. C. 20260, Attn: Ms. Betty Bryant; telephone is (202) 245-4021; Volume 1 contains the actual report, and Volumes 2-3 consist of supporting materials.

affips Washington Report

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Vol. III, No. 8   August, 1977

WASHINGTON DEVELOPMENTS

PRIVACY PROTECTION STUDY COMMISSION REPORTS TO PRESIDENT, CONGRESS

After two years of study, $1.75 million in expenditures, and 60 days of
hearings and meetings, the Privacy Protection Study Commission last month
presented its final report to the President and Congress. The 654-page
renort, entitled *Personal Privacy in an Information Society* (#), contains
recommendations designed to preserve the privacy of individuals in their
'recordkeeping relationships" with credit grantors, insurance companies,
employers, doctors and hospitals, schools and colleges, social service
agencies and government.

Privacy Commission Chairman David J. Linowes summarized the panel's
recommendations: (1) an individual should have access to all records
that concern him; (2) he should be allowed to correct any inaccuracies in
personal data; (3) an individual should be assured that data is being
maintained only for the purposes for which it was originally intended; and
(4) he should be permitted to control the secondary distribution of personal
data beyond its starting point.

The study calls for a mixture of enforcement of legislation implementing
its recommendations including Federal or state laws, amendments to the
Fair Credit Reporting Act, and voluntary compliance. On the same day as
the presentation of the report, July 12th, Sen Birch Bayh (D-Ind.), as
well as Rep. Barry M. Goldwater (R-Calif.) and Rep. Edward I. Koch (D-N.Y.)
introduced 11 bills to implement the recommendations. The 10 bills, which
were introduced by Rep. Koch and Rep. Goldwater, members of the Commission,
will be combined with additional legislation to form the *Omnibus Privacy Act
of 1977*.

On receiving the study from Chairman Linowes at the White House, President
Carter assured the Commission that the report would receive his personal
attention. The President offered to brief his Cabinet on the study at its
next meeting.

Background of the Report. The Privacy Commission was created by the *Privacy
Act of 1974* which guarantees citizens the right to examine and correct
(when inaccurate) Government files containing personal data. The *Privacy
Act* also limits dissemination of Government information to third parties.
On January 4, 1977, Rep. Goldwater and Rep. Koch reintroduced to Congress
H.R. 1984, legislation which would apply the principles of the 1974 law to
data systems in the private sector.

In addition to Linowes, Koch and Goldwater, other members of the seven-
person Commission include: Dr. Willis H. Ware, vice chairman and computer
scientist, Rand Corp. (also a former AFIPS president); Mr. William O. Bailey,
president, Aetna Life and Casualty Co.; Mr. William Dickinson, retired
managing editor, *Philadelphia Evening Bulletin*; and Mr. Robert J. Tennessen,
Minnesota state senator.

Major Recommendations. The Commission recommended legislation that would
in most circumstances require Government agencies to obtain administrative
or judicial subpoenas in order to access private information. It also
suggests legislation which would allow a private citizen to recover as
much as $10,000 from businesses which willfully or intentionally violate an
individual's right to privacy.

Specific recommendations for legislation relating to information processing
include requests for: (1) limits on the amount of time that electronic
funds transfer (EFT) records may be maintained; (2) opportunities to correct
inaccuracies in EFT records; (3) limits on Government operation of "EFT
mechanisms" involving transactions among private parties; and (4) restrictions
on the use of the social security number and other labels as universal
identifiers.

Finally, the Commission suggested establishment of a "Federal Privacy Board"
to help implement its recommendations.

Ordering Information. Copies of the final report, Stock Number 052-003-00395-3,
can be obtained for $5.00 directly through the Government Printing Office (GPO),
at (202) 783-3238, or through the AFIPS Washington Office (enclose $5.00).

'FEDERAL COMPUTER SYSTEMS PROTECTION ACT OF 1977' INTRODUCED IN SENATE

A bill which would make it a Federal offense to misuse computers owned by the
Federal government, computers employed in interstate commerce, and computers
used in certain financial institutions (insured or regulated by the Federal
government) was introduced in the Senate June 27th. Titled the *Federal
Computer Systems Protection Act* (#), the legislation [offered by Sen. Abraham
Ribicoff (D-Conn.)] provides penalties of up to 15 years in prison and/or
a $50,000 fine.

The bill is said to be the first Federal legislation ever introduced to
control computer crime. It is designed to curb abuse in entering fraudulent
data "misusing computer facilities"; altering or destroying information;
and stealing money, financial instruments, property, services or data by
electronic means.

If enacted the law would complement "Title 18" of the *United States Code*,
containing approximately 40 statutes the Government has previously used to combat
computer-related crime, in lieu of specific laws concerning computers. The
legislation is the culmination of a year-long investigation by Sen. Ribicoff's
Committee on Government Operations into security issues raised by three
General Accounting Office (GAO) reports (*Washington Report*, 3/77, p. 1):
*Improvements Needed in Automated Decisionmaking by Computers Throughout the
Federal Government; Computer-Related Crimes in Federal Programs; and Managers
Needed to Provide Better Protection for Federal Automatic Data Processing*

Facilities. Last February, the Committee released a staff study on *Computer*⁹²
Security in Federal Programs.

CONTU SUBCOMMITTEES RECOMMEND COPYRIGHT PROTECTION FOR COMPUTER PROGRAMS, DATA BASES

Subcommittees of the National Commission on New Technological Uses of Copyrighted Works (CONTU) in June recommended extending copyright protection to computer programs and data bases. The two subcommittees suggested that copyrights will enhance the availability of software and data bases as well as the potential for financial reward accruing to their developers.

In the *Software Subcommittee Report* (#), the authors equated programs with literary works, which are entitled to copyright protection under the present law. The Software Subcommittee also noted disadvantages in other forms of protection such as patents and trade secrets.

In its *Report* (#), the Data Base Subcommittee equated proprietary data bases with telephone books, city directories, and *The Reader's Guide to Periodical Literature*, all of which qualify for copyright protection under present law.

Hearings on the recommendations are scheduled by CONTU this fall. Requests to appear before the Commission should be received by August 1st; written comments are requested by September 1st. Further information is available from Mr. Arthur J. Levine, executive director, CONTU, Washington, D.C. 20558.

AFIPS IN WASHINGTON

AFIPS PRESIDENT EXPRESSES CONCERN ABOUT REPORTED REORGANIZATION OF OTP, ICST IN LETTER TO PRESIDENT CARTER

In a letter to President Carter last month, printed in its entirety below, AFIPS President Theodore J. Williams expressed concern that the President's forthcoming Reorganization Plan recognizes the importance of the White House Office of Telecommunications Policy (OTP) and the National Bureau of Standards' (NBS) Institute for Computer Science and Technolgoy (ICST) with respect to computer science and technology in the United States. The AFIPS president offered the Federation's assistance to parties involved in the reorganization effort. Dr. Williams wrote the President:

6 July 1977

The Honorable Jimmy Carter
The President of the United States
The White House
1600 Pennsylvania Avenue, N.W.
Washington, D. C. 20500

Dear Mr. President:

Recent press reports indicate that your forthcoming Reorganization Plan may encompass several Federal groups of vital importance to computer science and technology in the United States, principally the Office of Telecommunications Policy in the Executive Office of the President, and the Institute for Computer Science and Technology in the Department of Commerce. Further, the Office of Management and Budget has indicated that within the Reorganization Project, it will place a high priority on Federal computer utilization and management policies, with attention to major agencies having responsibility under the "Brooks Act" (P.L. 89-306).

There are crucial policy functions resident within this structure of computer related groups. It has been well recognized by both the Federal Communications Commission and the Congress that there is a convergence of technologies from the regulated field of communications and the non-regulated computer industry. Each of these industries taken separately has great importance to our national economy and capability; taken together this area has broad national policy implications.

The Office of Telecommunications Policy has been an articulate and objective body in addressing these policy concerns, taking into account a broader viewpoint than possible through individual agencies limited in perspective by jurisdictional or other factors. The Institute for Computer Science and Technology has been a pioneering force in establishing computer related standards to assist the Federal government in the efficient usage of its computer resources. Beyond this, it has conducted important research to further the field, and is a focal point for computer expertise within the Federal government. The Federal government is the nation's largest single user of computers; the influence of Federal policies relating to standards or other aspects of computer management and utilization, therefore, reaches far beyond the Federal government itself into the private sector.

We are most concerned that the importance of these groups is recognized in the course of developing the Reorganization Plan, and that the reorganization relating to them is carefully considered.

As you know, the Congress is now reconsidering in Committee the Communication Act of 1934, as well as instituting a study through the Office of Technology Assessment on related technologies. We believe that as the Congress focuses on telecommunications, computers, and information policies as areas of broad national attention, it is important for the Executive Branch not only to recognize the significance of this area, but to be in a position to adequately respond to proposals which will be forthcoming from the Congress. Further, we believe that a coherent national policy is necessary to first, allow unfettered growth of this beneficial technology, free of unnecessary regulatory intervention, and second, that government decisions in areas which are regulated (including communications, electronic mail and electronic banking) are indeed made from a broad perspective of national policy considerations, and in a full understanding of the many interrelationships which exist between the regulated and non-regulated sectors of these technologies.

We recognize that numerous Federally funded studies have been undertaken to analyze relationships and possible reorganization of the groups outlined above. However, we deem it most important that the Reorganization Plan take into account the importance and impact of these bodies as seen by professionals from within the information processing field.

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*We would therefore like to offer our assistance, in any form within our
capabilities, to parties involved in the reorganization effort.   In view
of the imminent delivery of the Plan to the Congress may I suggest that
an informal meeting with AFIPS representatives as soon as possible may be
the best immediate mode for conveying this information.*

*We would, of course, be pleased to cooperate in other appropriate modes
which you may suggest.   We can be contacted locally in Washington through
Mr. Philip S. Nyborg, Director of the AFIPS Washington Office at 2100 "L"
Street, N.W , telephone number (202) 296-0590.*

Thank you very much for your interst.

Very truly yours,

Theodore J. Williams /s/

Theodore J. Williams

ACM'S MC CRACKEN TESTIFIES BEFORE HOUSE SUBCOMMITTEE CONCERNING PRIVACY IMPLICATIONS OF TELECOMMUNICATIONS TECHNOLOGY

ACM Vice President Daniel D. McCracken June 22nd appeared before the House
Subcommittee on Communications to testify on the "Impact of Telecommunications
Technology on the Right to Privacy." The subcommittee of the House Committee
on Interstate and Foreign Commerce is revising the *Communications Act of 1934.*

Mr. McCracken, who noted that he was not speaking for ACM members, told the
subcommittee that :   (1) there is no indication that the very rapid growth
of technology experienced over the last 30 years will diminish; (2) the
combination of computers and telecommunications "creates a new entity that is
bigger than the sum of the two", and (3) differentiating between the computer
and the communications link is not "terribly useful." According to McCracken,
the location of two computers, *i.e.*, whether they are in the same room, or
separated by a thousand miles, is inconsequential.

Finally, in view of the fact personal data is often communicated over
telecommunications links, the ACM vice president has urged ACM members to
consider providing privacy guidelines for the telecommunications field.

TASK FORCE ON ANSI COMMITTEE Z39 DRAFTS 'RECOMMENDED FUTURE DIRECTIONS'

The Task Force on the American National Standards Committee Z39 Activities
and Future Directions held its second and third meetings in Washington,
D. C. , May 25-27 and June 29-30, respectively. Mr. Melvin Day, deputy
director of the National Library of Medicine, and a former president of
the American Society for Information Science, represents AFIPS as one member
of the 13-person Task Force which is reviewing the activities and charter
of the ANSI Z39 Committee (*Washington Report*, 5/77, p.5). Since 1939, the
Z39 Committee has formulated standards related to libraries and information
science.

As its second meeting May 25-27, the review panel prepared a rough draft
of a document entitled *American National Standards Committee Z39:*

Recommended Future Directions. During the third meeting June 29-30, the Task Force discussed the draft line-by-line. A second review is planned by mail, with another meeting scheduled prior to submission of the final document to the Council on Library Resources, the National Science Foundation, and the National Commission on Libraries and Information Science (NCLIS). Since the draft is still being discussed, it cannot be quoted. However, the final document will be summarized in the *Washington Report* as soon as it is available.

ECONOMIC RESTRAINTS CITED AS OBSTACLE TO INCREASED R&D SPENDING IN FEDERAL GOVERNMENT: SECOND ANNUAL AAAS COLLOQUIM ON 'R&D IN THE FEDERAL GOVERNMENT'

[*Ed.*: In contemplation of a possible stronger AFIPS role in the Federal R&D process, the Washington Office participated in a recent AAAS colloquium on Federal R&D.]

Economic restraints, President Carter's plans for a balanced budget, and zero-base budgeting reviews are viewed as obstacles to increased research and development (R&D) expenditures, according to participants in the Second Annual AAAS Colloquium on "R&D in the Federal Government," held June 15-16 in Arlington, Virginia.

Several speakers noted the vulnerability of R&D to the budget-cutting process. One said R&D is eliminated from the Federal budget because it represents at least a portion of the 30 per cent of the budget that can be changed. Perhaps 70 per cent of the Federal budget was estimated to be fixed, *i.e.*, representing unchangeable expenditures authorized by Congress on a continuing basis (such as Social Security payments). In addition, it was noted that R&D is especially vulnerable to budget-cutting because its benefits are not always immediately recognizable or even tangible.

According to Mr. W. Bowman Cutter, Executive Associate Director for the Budget, Office of Management and Budget, President Carter views all request for R&D "equally" in the sense that (taken all together) they are more than the nation can afford. (Thus, the President's use of zero-base budgeting is a review of all proposed expenditures for a particular area in contrast to a review of incremental changes in expenditures form year to year.)

However, Cutter also noted the salutary effect of R&D on sustaining economic growth. Mr. William D. Nordhaus, member, Council of Economic Advisers, suggested that the scientific community could also stress the technological achievements attainable through R&D.

In a dinner speech, Sen. Adlai E. Stevenson (D-Ill.) attributed the downtrend in R&D funding to the "overselling" of science and technology in the late 1950s and early 1960s. Sen. Stevenson added that if the Office of Science and Technology Policy (which he called the "focal point" for Federal R&D) is combined with a new Office of Planning and Analysis (as presently discussed), it would represent an additional "setback" for R&D.

Materials obtained at the colloquium are available on request through the Washington Office.

[*Ed*: Documents indicated by the symbol "(#)" are available on request.]