G

A NATIONAL CONFERENCE ON CONTENT ANALYSIS

THE ANNENBERG SCHOOL OF COMMUNICATIONS

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA

NOVEMBER 16, 17, 18, 1967

CALL TO THE CONFERENCE

The study of communication focuses on interaction through messages. The analysis of messages is, therefore, a major task of communication scholars. The Annenberg School of Communications, University of Pennsylvania, a center of graduate studies in the arts and sciences of communications, is pleased to extend to interested scholars this invitation to a national conference on content analysis. The conference will assemble leading theorists, researchers, and active or potential users of advanced theory and technique. Principals and participants will come from the arts and humanities, the biological and social sciences, linguistics, mathematics and other information and computer-oriented sciences. They will review recent progress, explore applications to a variety of research problems, and point to next steps in the scientific study of message content.

GEORGE GERBNER, DEAN CONFERENCE CHAIRMAN

BACKGROUND OF THE CONFERENCE

Panel chairmen met in the spring of 1966. The planning session set goals, framed problems, and identified outstanding work to be reported at the conference. The goals are:

- to bridge the gap between theories and new technologies

- to share recent outstanding work among scholars and students from many disciplines

- to elicit additional contributions

The problems framed at the planning session form the outline of the program and define the central themes. The work to be reported and discussed at the conference was commissioned a year in advance. The list of principal contributors, and brief descriptions of papers included in the program (below), indicate the scope, interest, collaboration, and diligence which marked almost two years of preparation. The International Business Machines Corporation helped with both staff assistance and funding. The encouragement and grant support of the American Council of Learned Societies and the National Science Foundation were instrumental in making the conference possible.

ARRANGEMENTS FOR THE CONFERENCE

All sessions will be held at The Annenberg School of Communications, University of Pennsylvania, 3620 Walnut Street, Philadelphia. There is no registration, fee, or formality except the courtesy of giving advance notice of attendance. All participants (except principals) make their own arrangements and pay for their own transportation, lodging, and meals. The conference staff will be pleased to help with transportation in the city, with reserving meal tickets at the adjoining Faculty Club, and with forwarding room reservations.

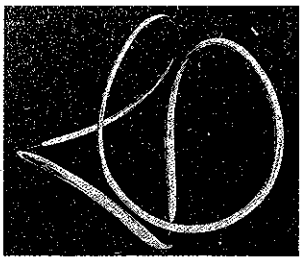
If you plan to attend, please complete as applicable and return the attached courtesy form.

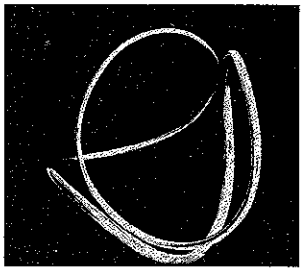
Part I will help conference planners estimate space requirements.

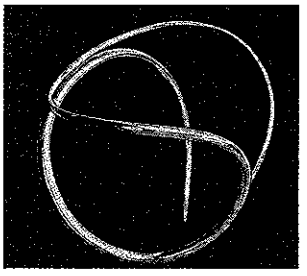
Part II is a request for transportation by chartered bus (free of charge for conference participants) from the Warwick Hotel in Center City to The Annenberg School of Communications before and after each day's sessions.

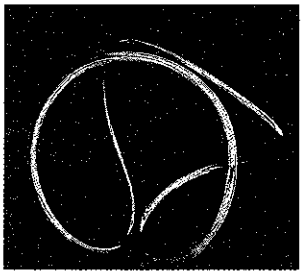
Part III is a request to purchase meal tickets at the Faculty Club. These tickets will be available at The School office before and during the conference. There are also other convenient restaurants near campus; advance reservation and meal tickets are needed only for the Faculty Club.

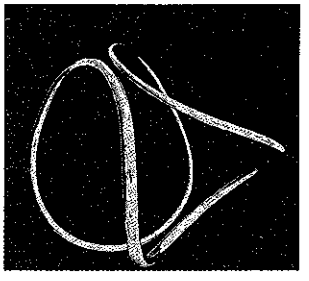
Part IV is a request for hotel reservation. This will be confirmed by the hotel. If you do not receive a confirmation within two weeks, claim your reservation directly from the hotel. Participants are, of course, welcome to make their own reservations.

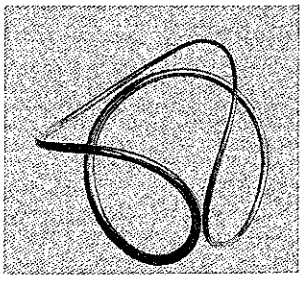












FIRST CLASS
PERMIT No. 898
Philadelphia, Pa.

The Annenberg School of Communications
University of Pennsylvania
3620 Walnut Street
Philadelphia, Pennsylvania 19104

CONTENT ANALYSIS CONFERENCE

November 16-18, 1967
The Annenberg School of Communications
University of Pennsylvania
3620 Walnut Street, Philadelphia, Pa. 19104

tear off and mail

I *I expect to attend all sessions* ____

If I cannot attend all sessions, or if there are concurrent sessions, I would not want to miss the initial session of the panels on:

Theory and definition ____
Inference ____
Recording and notation ____
Computer techniques ____
Norms and categories ____
Education in content analysis ____

II *I would like to receive a copy of the final program* ____
I would like free transportation by chartered bus from the Warwick Hotel (Locust Street at 17th) to The Annenberg School of Communications prior to and after the day's sessions checked above ____

III *I wish to purchase meal tickets at the regular prices and eat the following meals at the Faculty Club of the University of Pennsylvania:* ____

Thursday, November 16, dinner at 6 p.m. ____
Friday, November 17, breakfast at 8 a.m. ____
lunch at noon ____
dinner at 6:30 p.m. ____
Saturday, November 18, breakfast at 9 a.m. ____
lunch at noon ____
I would like tickets for all meals ____

IV *Please make a reservation at the Warwick Hotel for the type of accommodation and dates indicated:* ____

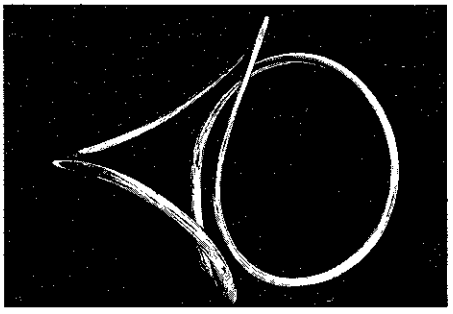
$12.00 single ____ $17.00 twin ____
shared with ____
arrival date ____ departure date ____
time ____

please print: name

institution

address

PLAN OF THE CONFERENCE



Each panel will hold an initial session for the presentation and discussion of papers among principals and participants. Subsequent panel sessions will be devoted to further contributions, critiques, and the other tasks set for the conference. Meals will be on your own; there will be no conference functions during mealtimes.

The conference will begin November 16, Thursday night at 7:30, and end November 18, Saturday at 3:30 p.m. Some concurrent sessions will be unavoidable. The final conference schedule will be mailed to those who return the courtesy form. The general timetable, including transportation, mealtimes, meeting times, and other functions is the following:

Thursday, November 16.

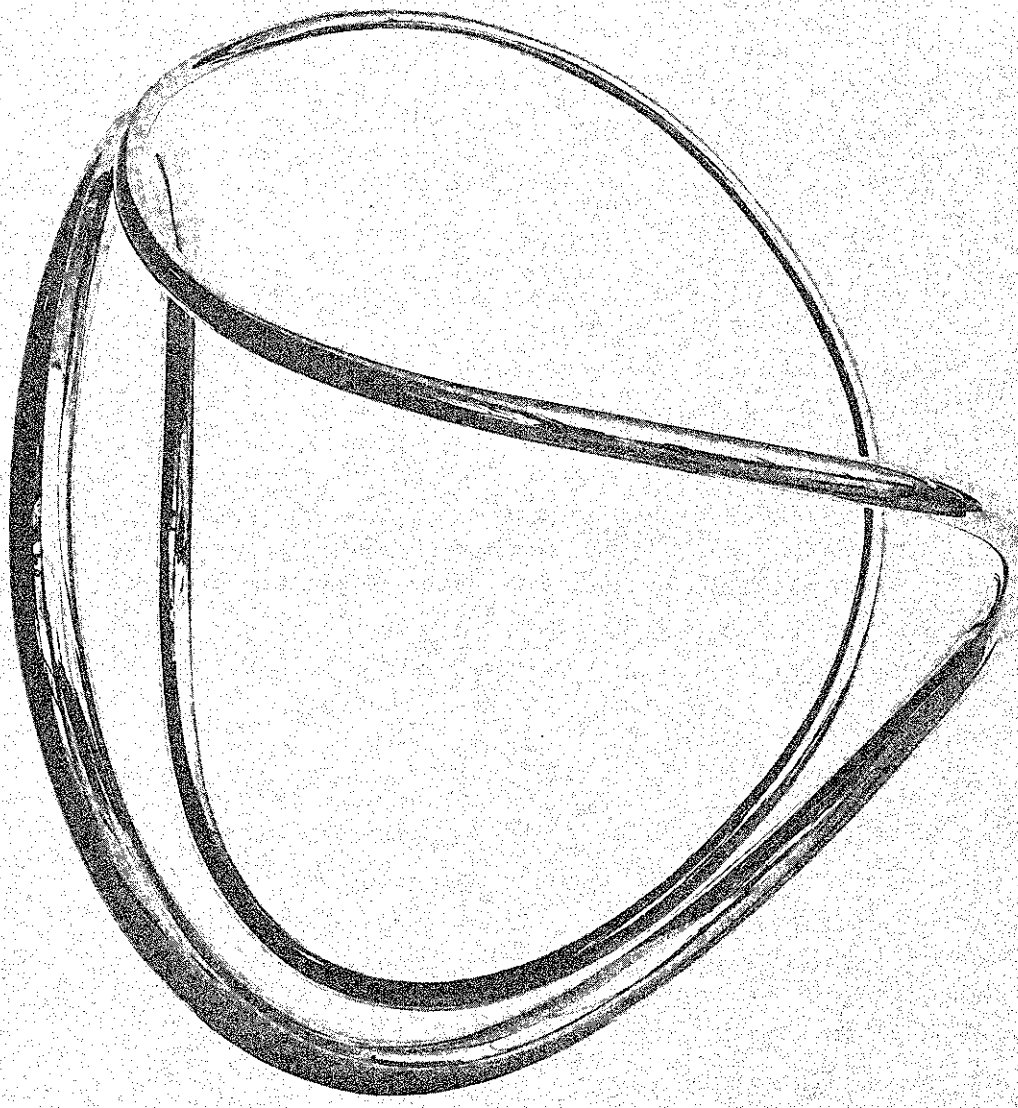
Transportation will leave the Warwick Hotel for The Annenberg School at 5:00 p.m.
6:00 p.m.: Dinner.
7:30 to 10:00 p.m.: First session.
Transportation to the Warwick will leave at 10:15 p.m.

Friday, November 17.

Transportation will leave the Warwick at 7:45 a.m.
8:00 a.m.: Breakfast.
9:00 a.m. to 12:00 noon: Second session.
12:15 p.m.: Lunch.
2:00 p.m. to 5:15 p.m.: Third session.
5:30 to 6:30 p.m.: Reception for participants, Faculty Club.
6:30 p.m.: Dinner.
8:00 to 10:00 p.m.: Fourth Session.
Transportation will leave for the Warwick at 10:15 p.m.

Saturday, November 18.

Transportation will leave the Warwick at 8:45 a.m.
9:00 a.m.: Breakfast.
10:00 a.m. to 12:00 noon: Fifth session.
12:15 p.m.: Lunch.
2:00 to 3:30 p.m.: Sixth session.
3:45 p.m.: Transportation will leave for the Warwick Hotel.



THEORIES AND DEFINITIONS

Chairman: Klaus Krippendorff
The Annenberg School
of Communications
University of Pennsylvania

DAVID HAYS, PROJECT LEADER FOR LINGUISTIC RESEARCH, RAND CORPORATION. *"Linguistic Foundations for a Theory of Content Analysis."*

The possibility of assessing in detail the personality, the beliefs, intentions, and other significant characteristics of authors and speakers depends on development of automatic methods. Contemporary linguistics is elaborating a theory of language that includes an account of how meaning is conveyed.

KLAUS KRIPPENDORFF, THE ANNENBERG SCHOOL OF COMMUNICATIONS, UNIVERSITY OF PENNSYLVANIA. *"Models of Messages: Three Prototypes."*

An attempt to clarify the goal of analyzing given data as messages. Uncertainty in this respect has hindered both methodological examinations of the investigative technique and the recognition of relevant theories. Among explanatory devices that lend themselves to explicit analysis seem to be three formally distinguishable models. These will be examined particularly in regard to possible computerization.

JOHN MUELLER, POLITICAL SCIENCE, UNIVERSITY OF ROCHESTER. *"The Use of Content Analysis in International Relations."*

A survey of some of the uses and problems in the application of content analysis to international relations research.

ANATOL RAPOPORT, PROFESSOR OF MATHEMATICAL BIOLOGY AND SENIOR RESEARCH MATHEMATICIAN, UNIVERSITY OF MICHIGAN. *"A Critique of Content Analysis."*

Examines the existing literature, particularly that which treats data and proposes theoretical schemes with a view of arriving at a critical survey from the standpoint of general system theory.

INFERENCES FROM CONTENT ANALYSIS

Chairman: Philip Stone
Department of Social Relations
Harvard University

JAMES DEESE, PSYCHOLOGY, JOHNS HOPKINS UNIVERSITY. *"Content Analysis: Paraphrase or Coding."*

Research in content analysis has been characterized by the attempt to find more or less mechanical coding devices for accomplishing the

reduction of information. Linguistically based paraphrase devices have not been generally useful in content analysis because, among other reasons, they do not, in general, result in a systematic reduction of content. The purpose of the present paper is to explore the application of paraphrases derived from psychological theory. Such paraphrases do accomplish some reduction in content, and the major problem is to determine whether the kinds of coding that result would be generally useful in any content analysis scheme.

JULIUS LAFFAL, DIRECTOR OF RESEARCH, PSYCHOLOGY SERVICE, WEST HAVEN V.A. HOSPITAL. *"Contextual Similarities as a Basis for Inference."*

How one may draw inferences about cognitive similarities between separate key ideas, topics, or words of a subject (or group of subjects) from similarities in language content surrounding these key items. Total content in the context of the key items is analyzed by a method which assigns one or two of 114 possible conceptual categories to each word, and which produces a profile showing distribution of the content categories.

J. ZVI NAMENWIRTH, SOCIOLOGY, YALE UNIVERSITY. *"Some Long and Short Term Trends in One American Political Value: A Computer Analysis of Concern with Wealth in 62 Party Platforms."*

Patterns of value change in American party platforms are investigated by decomposing a raw percentage index into long-term (secular) trends and campaign-to-campaign variations about the secular trends. This procedure allows for a comparison between Republican and Democratic platforms over time while relating the platforms to social indicators.

DANIEL OGILVIE, DEPARTMENT OF SOCIAL RELATIONS, HARVARD UNIVERSITY. *"Psychodynamics of Fantasized Flight."*

Report of research into the psychological meaning of fantisized flight through individual case studies and through content analysis of folk tales. An attempt to demonstrate the relationships between development of such fantasies on the individual level and the development and expression on the cultural level.

JOSEPH RABEN, ENGLISH, QUEENS COLLEGE. *"Inferences From Content Analysis in Poetry."*

Among the meaningful elements of poetry that must be considered in any relevant analysis are those of form, e.g. meter and stanzaic pattern. In his choices of these and other elements, e.g. imagery and sound effects, the poet affiliates himself with a particular tradition characterized by a distinctive use of those elements. Not only can we therefore measure the existence of a wide-ranging relationship among several poets, but we must recognize that relationship as a major factor in each work studied.

RECORDING AND NOTATION IN CONTENT ANALYSIS

Chairman: William Paisley
Institute for Communication Research
Stanford University

BARRY BROOK, MUSIC, QUEENS COLLEGE. *"Recent Developments in the Use of the Plaine and Easie Code for Music."*

This keypunchable mnemonic input code and its derivative language systems can record various levels of musical information including the total representation of the written score. This makes possible computer-aided music printing, lexicographical indexing and ordering of musical data, and the analysis of style and structure.

PAUL EKMAN, MEDICAL PSYCHOLOGY, UNIVERSITY OF CALIFORNIA. *"VID-R and SCAN: Hardware and Analytic Procedures for the Analysis of Body Movement and Facial Expression From Film or Video Tape Records."*

Concerned with the problems of converting visual information as recorded in motion picture film or video tape into data which can be analyzed. VID-R (visual information display and retrieval system) is hardware specifically designed for this purpose. VID-R interfaces video tape and an on-line control computer for reading and writing digital codes on the video tape, which can then be used as retrieval tags. SCAN (systematic classification and analysis of non-verbal behavior) is a specific procedure for utilizing this equipment to determine the psychological meaning of specific body movements and facial expressions.

JOHN PLUMMER, CURATOR OF MEDIEVAL AND RENAISSANCE MANUSCRIPTS, PIERPONT MORGAN LIBRARY, NEW YORK. *"Iconographic Criteria in Content Analysis."*

Problems of transforming visual images into codes suitable for storage and retrieval.

EUGENE WEBB, PSYCHOLOGY, ADVERTISING AND MARKETING, NORTHWESTERN UNIVERSITY, and **KARLENE H. ROBERTS**, GRADUATE SCHOOL OF BUSINESS, STANFORD UNIVERSITY. *"Unconventional Uses of Content Analysis in Social Science."*

The use of content analysis to develop an independent line of validation in multiple-approach research.

NORMS AND STANDARDIZED CATEGORIES

Chairman: Ole Holsti
Political Science
University of British Columbia
Vancouver, B.C., Canada

CALVIN HALL, DIRECTOR, INSTITUTE OF DREAM RESEARCH AND LECTURER, UNIVERSITY OF CALIFORNIA, SANTA CRUZ. *"Content Analysis of Dreams: Categories, Units, and Norms."*

Problems peculiar to the quantitative study of dreams: qualitative versus quantitative dream analysis; the importance of norms of dream research; standardization of collecting procedures; dream *sets* versus dream *series;* empirical and theoretical categories; inter-scorer reliability; contingency analysis; "manifest" versus "latent" content; and the treatment of symbol and metaphor.

SALLY Y. SEDELOW, ENGLISH AND INFORMATION SCIENCE, UNIVERSITY OF NORTH CAROLINA and WALTER A. SEDELOW, JR., DEAN OF THE SCHOOL OF LIBRARY SCIENCE; SOCIOLOGY AND INFORMATION SCIENCE, UNIVERSITY OF NORTH CAROLINA. *"Categories and Procedures for Content Analysis in the Humanities."*

Problems associated with content analysis in the humanities. Comparative studies in the computer-aided generation of text-specific thesauri will be included.

EDWIN SHNEIDMAN, CHIEF, CENTER FOR STUDIES OF SUICIDE PREVENTION, NATIONAL INSTITUTE OF MENTAL HEALTH. *"Psycho-Logic: An Explication of Argument."*

A new method for analyzing an individual's "idiosyncrasies of reasoning" and "cognitive maneuvers," drawing inferences about his implicit epistemological positions and psychological characteristics from these analyses.

PHILIP STONE, DEPARTMENT OF SOCIAL RELATIONS, HARVARD UNIVERSITY. *"Improved Quality of Content Analysis Categories: Computerized Disambiguation Rules for High Frequency Words in the English Language."*

For the past two years, our staff has been locating contextual cues that would be of use in identifying the correct sense of multiple meaning words as they occur in text. Rules for over 1000 such words have been developed. The data base and procedures used in constructing rules will be described. A report will be given on their use in the Harvard Fourth Content Analysis Dictionary. Statistics will be presented on the quality of tagging when these rules are applied. The use of such rules as a standardized reference in constructing categories will be discussed, and copies of the rules will be available.

COMPUTER TECHNIQUES IN CONTENT ANALYSIS AND COMPUTATIONAL LINGUISTICS

Chairman: Philip Stone
Department of Social Relations
Harvard University

DONALD GOLDHAMER, SOCIAL PSYCHOLOGY, UNIVERSITY OF CHICAGO. *"Toward A More General Inquirer: Convergence of structure and context on meaning."*

A description of the current General Inquirer, a model of interaction between linguistic structure and word context as clues to meaning. Some projections of needed improvements in this model. A discussion of theoretical limits inherent in the approach.

OLE HOLSTI, POLITICAL SCIENCE, UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, B.C., CANADA. *"Computer Techniques in Content Analysis: The Measurement of Qualities and Performance."*

A new program for analyzing political documents. (1) Theoretical assumptions underlying the technique; (2) description of data input and output format; and (3) illustrations from recent case studies.

HOWARD P. IKER, PSYCHIATRY (PSYCHOLOGY), UNIVERSITY OF ROCHESTER MEDICAL CENTER and **NORMAN I. HARWAY**, PSYCHIATRY (PSYCHOLOGY), HEAD OF THE DIVISION OF PSYCHOLOGY, UNIVERSITY OF ROCHESTER MEDICAL CENTER. *"A Computer Systems Approach Towards the Recognition and Analysis of Content."*

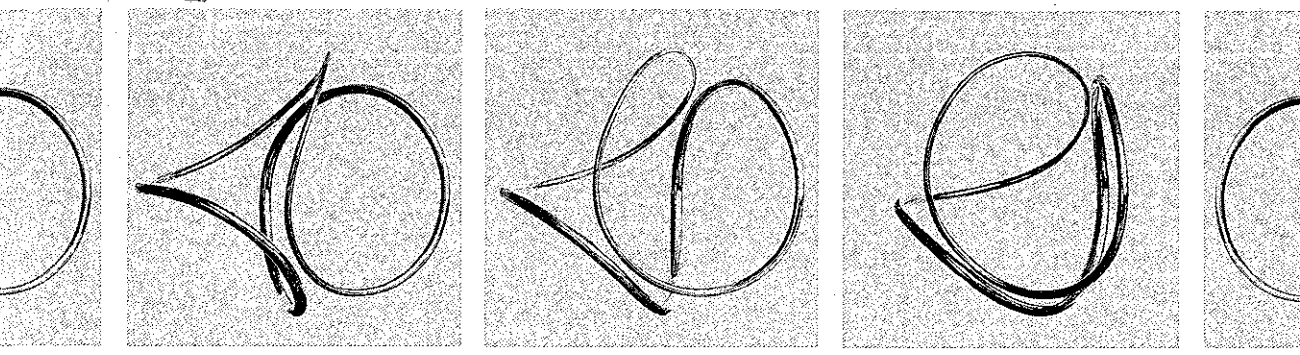
The WORDS SYSTEM analyzes the frequency of associations among words in a data-base in order to elicit statistically associated word groups, i.e., factors. The extraction of these factors comprises the content *recognition* aspects of the system. *Analysis* of content is then pursued by investigating these factors, their inter-relationships, changes across time, across people, and across different situations.

KENNETH JANDA, POLITICAL SCIENCE, NORTHWESTERN UNIVERSITY. *"A Microfilm-and-Computer System for Analyzing Comparative Politics Literature."*

A method for coding documents as input to a machine-readable microfilm information retrieval system. The system is being applied to a comparative study of 250 political parties in 90 countries.

GEORGE PSATHAS, SOCIOLOGY, WASHINGTON UNIVERSITY. *"Analyzing Dyadic Interaction."*

The problem of multiple dictionaries in classifying content generated by two speakers, specifically in therapeutic interviews. The requirements of computer programs to handle such problems are outlined.



GERARD SALTON, PROFESSOR OF COMPUTER SCIENCE, CORNELL UNIVERSITY.
"Automatic Content Analysis in Information Retrieval."

The principal content analysis procedures incorporated into the SMART system are briefly reviewed and their effectiveness for information retrieval is discussed. Included in the system are word stem matching procedures, synonym recognition, phrase recognition, syntactic analysis, statistical term association techniques, and hierarchical expansion methods.

JOHN STARKWEATHER, MEDICAL PSYCHOLOGY, UNIVERSITY OF CALIFORNIA.
"Computer Aids to Content Recognition."

Strategies for using the computer as an aid to the recognition and classification of verbal content. General problems of pattern recognition and the use of adaptive program elements, and applications to instruction and the production of programed conversational response.

"EDUCATION IN CONTENT ANALYSIS"

F. EARLE BARCUS, SCHOOL OF PUBLIC COMMUNICATIONS, BOSTON UNIVERSITY.

A survey of colleges and universities in the United States, commissioned for this conference, shows the extent to which content analysis is taught, the subject emphases of courses, and the methodological orientations of the instructors.