COMPUTER-AIDED ANALYSIS OF PSYCHOTHERAPEUTIC DISCOURSE - AN INTRODUCTION TO THE WORKSHOP

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Max WEBERS recommendation (quoted from RITSERT 1972) to skip through the content of newspapers with "scissors and compass" to get a firm hold of quantitative change of published content in the course of history wasn't as new as he thought: J.G. SPEED (1893) was the first to compare changes in the sunday papers of New York between the years 1881 and 1893. As a method on its own the technique of content-analysis developed rather slowly in its beginnings. From a first survey by BARCUS (1959) we gather the important role of propaganda research during the war as a major field of application. The years following the first steps showed the usefulness of content-analysis mainly in mass communication research, where large amounts of text had to be screened for indices of social and/or political change processes (GERBNER et al. 1969).

However, such experienced leaders of the field as LASSWELL, LERNER & de POOL (1952) early realized the possibility of using data-processing machines to reduce the tedious and time-consuming job of coding large amounts of text to a manageable size. The very first text-processing study using computing devices for content analysis was a study by SEBEOK & ZEPS (1958); for an analysis of 4000 fairy tales of the CHEREMIS Indians they wrote a programme for the computation of word-contingencies. Somewhat later, but obviously whithout being well informed about that first effort, STONE & BALES from Harvard University developed a first version of the General Inquirer System, to study thematic changes in small discussion group protocols (STONE et al. 1962). STARKWEATHER & DECKER (1964) reported on a programme for the counting of word-frequencies and type-token indices. In the same year HARWAY & IKER (1964) published their first paper on their WORDS-system. Further reports from their work, which was performed on an analytic case analyzed by Dr. Gordon PLEUNE, ROCHESTER, followed in 1965, 1966, 1969a, 1969b; a detailed description of the WORDS-system itself was only published in 1974 by IKER & KLEIN. At the same time Julius LAFFAL (1960) worked on a comparative analysis of excerpts from the famous SCHREBER-case at first using manual procedures; a little known study on the treatment process of a schizophrenic patient dates from 1961 and in his 1965 book on "Normal and Pathological Language" you find a fairly comprehensive rationale explaning why these kinds of studies are well compatible with the psychoanalytic view of language

and its various functions. Four years later LAFFAL (1969) reports on the development of a programme system which was able to store a highly differentiated dictionary (114 categories!) and was capable of handling an unlimited number of textbatches up to 15 separate speakers at a time, with virtually no limit on the amount of text in each batch. A preliminary German version of the LAFFAL dictionary was prepared by KÄCHELE & BÜSCHER (1974; 1975) and has been used in studying reports on initial interviews.

The most systematical work has been carried out by Phil STONE who in 1966 published together with Co-workers a detailed report on the General Inquirer System accompanied by various examples of the use of such a system in social science research. Of the various dictionaries developed as analytic tools in the GI the HARVARD Socio-Psychological Dictionary went through different versions and has been applied in quite a few studies that touch our field: DUNPHY (1966) described changes of self-perception and role/differentiation of the participants of a psychoanalytic group. PAIGE (1966) analysed a wellknown series of 167 "letters to Jenny" that had been published by ALLPORT (1946). This study allows a comparison with the results of the manual content-analysis performed by BALDWIN (1942) on the same material. PSATHAS & ARP (1966) used the dictionary on material from experimental interview research by HELLER (1963).

A first application of the dictionary to verbatim material was performed by DAHL (1972). He first used the computer-based approach to validate a factorial study on clinical process ratings. In a second study (1974) he analyzed the relationship between category scores and single words to find relevant cluster of words representing category meaning.

Donald SPENCE, who had studied together with Phil STONE at Harvard, programmed himself a mini-inquirer (1969) - thus proving that even psychoanalysts can learn to shape their research tools to suit unusual applications - and applied it to a series of circumscribed questions. Taking up a case that had been described by LUBORSKY (1954) he studied the 'up's and 'down's of symptom language (1970); the next study was devoted to the process of clinical listening thus demystifying the 'third ear'conception by applying rigorous experimental technique to the attention conditions and their consequences for verbal cues (SPENCE & LUGO 1972). In an elegant analysis of the five initial sessions of a newly started psychoanalytic case he could trace a welldefined 'thought stream by computer' (SPENCE 1973). The next application studied 'lexical derivatives in patient's speech', where he re-analyzed interview-data from George ENGEL's investigations of subliminal awareness of cancer patients; by the way,

with the technique of computer-aided content analysis he could make a more correct prognosis than the interviewing psychiatrists.

The development of computer-aided techniques in content analysis in Germany is neatly summarized by MOCHMANN (1980). As it was practically impossible to use the General Inquirer System on German linguistic material the ZENTRALARCHIV FUER EMPIRISCHE SOZIALFORSCHUNG in Köln developed a system of their own. The system, derived for the analysis of open answers in social science survey research by HOEHE & MOCHMANN (1970), had salient deficiencies in its applicability to unformated texts. This led to the development of the TEXTPACK system by HOEHE et al. (1973).

Our own investigations derive from a longstanding interest in psychoanalytic process research (THOMA & KÄCHELE 1973). After some preliminary efforts to adapt the SPENCE P1/1 programme on the IBM computer in Heidelberg we were lucky to get hold of the EVA-System by HOLZSCHECK & TIEMANN (1973, 1975) developed in Hamburg for the analysis of newspapers headlines. The aim of our research to analyse psychoanalytic sessions made some modifications of the EVA-System necessary (MERGENTHALER & BÜSCHER 1976). The problems in analyzing large amounts of text have so far not been deall with adequately in the literature. With the assembly of many sessions protocols data-handling, storage and retrieval become insurmountable problems. The times of piles of punchcards are definitely over; a new technology for the archiving of texts has to be developed. This is where MERGENTHALER and I started the development of a computer-based text archive of psychoanalytic texts. MERGENTHALER will report on basic problems of the construction of such archive which was a necessary prerequisite for the studies presented in this workshop.

For references see appendix.

SOME HINTS ON TEXTUAL DATA CLASSIFYING, ARCHIVING AND ANALYZING

Erhard MERGENTHALER

"How to do things with words?" AUSTIN (1962) entitled his fundamental writings on speech acts with this question. Psychotherapists seldom asked they rather did things

with words. The conceptualisation of words as data is an achievement of the seventies. Thus, texts became one of the most important sources of primary data[1] in psychotherapy research. Collecting textual data from the actual psychotherapeutic situation gathered momentum, however, mostly in an unsystematic manner and with concentration in the United States and in the FRG. Handling textual data via text-base-management systems[2] (TBMS) has become a main goal for the early eighties. I would like to point out some aspects of this topic.

1 Classifying textual data

Initially textual data must be sufficiently classified. It is necessary to find a typological system that would be capable of differentiating the circumstances and intentions of verbal expression. The outcome of a sequence of speech acts we call text. Such typological system would define text-types. During the last ten years, some linguists have endeavoured for or even concentrated on the development of fruitful classification techniques and even of a theory of text-types. With regard to our own archiving purposes we followed the proposal of SANDIG (1972) which is based on contrasting text markers. For further information confer MERGENTHALER (1979).

2 Archiving textual data

Although LUBORSKY & SPENCE (1978) in the second edition of the Handbook of Psychotherapy can report on eleven data banks[3] with protocols from

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1) LUBORSKY & SPENCE (1971) introduced this term concerning "data accumulated during actual analytic sessions. Ideally, two conditions should be met: the case should be clearly defined as analytic, meeting whatever criteria of process and outcome a panel of judges might determine; and the data should be recorded, transcribed, and indexed so as to maximize accessibility and visibility" (p. 426).

2) I choose this definition in analogy to the data-base-management systems (DBMS) and to the well known term in computer-science.

3) Dahl-Downstate Medical Center, SUNY; University of Ulm, Department of Psychotherapy; Columbia Psychoanalytic Clinic; Gill-University of Illinois Medical Center; Rochester Project on the Computer Analysis of Content; Analytic Research Group of the Pennsylvania Hospital; The Therapeutic Process Study (Mount Zion Hospital and San Francisco Psychoanalytic Institute); University of Illinois School of Medicine, Psychotherapy Film Laboratory; National Institute of Mental Health Filmed Therapy Project; The Hampstead Index; Menninger Foundation Psychotherapy Research Project; (loc.cit. p. 353-356).