147. Kächele H, Thomä H (1993) Psychoanalytic process research: Methods and achievements. J Am Psychoanal Assoc 41: 109-129 Suppl.

Psychoanalytic Process Research: Methods and Achievements*

Horst Kächele & Helmut Thomä (Ulm)

I. Psychoanalytic Rationale of the Ulm Research Program

Our present rationale has been the result of long standing endeavors to study the "homeland" of psychoanalysis, i.e. the "psychoanalytic situation". We are convinced that only the careful investigation of the exchange between patient and analyst is able to probe essential aspects of psychoanalytic theory and to develop an empirically based theory of the process.

Interpretation has been topic of our first attempts to study aspects of the process clinically. Thomä & Houben (1967) attempted – by examining interpretations – to identify important aspects of an analysts technique and its theoretical foundation, and by studying patients reactions – to estimate its therapeutic effectiveness. While conducting these studies we slowly became aware of the problems concerning the effectiveness of interpretations and the truth of theories. That topic remained with us as it is in the center of today's controversies (Strenger 1991). In order to systematically study interpretations, we followed a recommendation made by Isaacs (1939) and designed a scheme, starting 1963. It required the psychoanalyst while preparing the protocol to locate interpretations between observation and theory and to describe the patients reactions (for a detailed description see Thomä & Kächele 1992, p. 22–23). While working on this project we became aware that the question of validation can only be answered by empirical process and outcome research. All our later investigations are based on the rationale of single case methodology (Schaumburg et al 1974) which corresponds best to Meissners (1983) dictum of psychoanalysis as the science of subjectivity.

It is an advantage for clinical discussions when the analyst gives detailed information what had been in the back of his mind during sessions and to write protocols based on his feelings, thoughts and interventions in a

*The Ulm group has been generously supported by the German Research Foundation from 1970 - 1988

way that enables other analysts to develop alternative perspectives. However the systematic weakness of such reporting schemes time and again has been demonstrated as lately by the Pulver–study (1987).

The shortcomings of studies which are based even on formalized protocols of the treating analyst should be obvious by now. As Spence (1986) pointed out analytic narratives are constructed according to most often concealed psychodynamic assumption. Very often it is impossible to recognize the analysts contribution; furthermore it is insufficient that only a few interpretations are selectively described. There is no way to even know what has been omitted. For scientific investigations it is not enough to rely on the memory of the analyst alone – a point of view which should be more than familiar to analysts. Therefore often independent from each other psychoanalysts introduced audio–recording of sessions as a means to get as close as possible to the psychoanalytic dialogue.

This simple technical tool today now longer is an object of controversy among research minded psychoanalysts (Thomä & Kächele 1992, p @). Of course one has to agree with Colby and Stoller (1988 p 42) that a transcript "is not a record of what happened" but"only of what was recorded". Our answer to this warning has been since many years to empirically find out what can be reconstructed of the "true" psychoanalytic process on the basis of transcripts The major progress brought about by this tool is amongst other that independent observers may they be analysts or scientists from other disciplines are able to study important features of the analytic process. In addition methods developed in other fields like content and discourse analysis can be applied to the material produced by the two participants of the psychoanalytic exchange.

Apart from a general aim of our research to really get access to the in–vivo situation the specific aims were attempts to validate aspects of the clinical psychoanalytical theory. In order to find out what psychoanalysts do it is not enough to rely on their personal definition and presumed application of concepts (Sandler 1983, 1991). The analysts implementation of their concepts as interpretative tools can only be studied in the ongoing analytic interaction. We need to provide a systematic description of what analysts say and how patients play their part in the dialogue. For this tape recording provides a sufficient data basis; more sophisticated recording devices are thinkable but not necessary.

As other researchers we had to deal with all kind of epistemological and methodological problems with regard to extra– or intraclinical testing of

hypotheses (Thomä & Kächele 1975). In spite of all kind of difficulties we have become convinced that many of the crucial concepts and theories of psychoanalysis relate to domains which surface in verbal manifestations. Though unconscious processes can also be investigated within experimental conditions (Kächele et al. 1991) we sought to achieve ecological validity by working on natural, non–experimental samples.of psychoanalytical sessions. In the course of a treatment data are produced that confirm or disconfirm clinical hypotheses (Hanly 1992). Therefore we decided to study adequately recorded psychoanalytic treatments.

Process models are not a theoretical, abstract matter; they are in fact, in greater or lesser degrees, a part of every analysts day–to–day practice. The conceptions of process handed down from one generation of analysts to the next, often expressed only in metaphorical terms, contain unspoken theories. Sandler (1983, p.43) correctly demands that the private dimensions of the meaning of concepts to be brought into the open. If these studies will be done we will be surprised about the diversity of meanings of "psychoanalytic process" in the field (Compton 1990).

In our textbook we have outlined a process model which is designed to be broad enough to include other process models based on a "focal concept" (Thomä & Kächele vol. 1, 1987). Focus refers to "the major interactionally created theme of the therapeutic work, which results from the material offered by the patient and the analyst´s efforts at understanding" (p.350). As the individual focuses are linked to one another via a central conflict our model can be applied to both short- and longterm therapies.. It is compatible with various theoretical approaches in psychoanalysis....it is a conception of the process as an ongoing, temporally unlimited focaltherapy with qualitatively changing focus.

The concept of the Ulm process model of the course of psychoanalytic treatment is the result of our confrontation with the developing field of research in psychotherapy. We feel strongly that psychoanalytic process research has to move beyond a very subjective perspective in which all theoretical positions are equal in their therapeutic potency as lately has been argued by Pulver (1987). We do not think that Pulvers conclusion that analysts` working with different theoretical orientations get equally good results (p.289) has been substantiated so far. What psychoanalysis needs is the move from a story telling field to a contemporary empirical science (Meyer 1990), are descriptive investigations on the process of interaction, and furthermore descriptive work on what goes on in the analyst and in the patient

and how their unconscious phantasies are expressed verbally and non–verbally (see section III). Obviously we emphasize the need of a thorough and reliable description as the basis for theoretical generalizations and attempts for etiological reconstructions.

In the explanation of the interactive foundation of the process approach, the point is not only that we react differently to the same material – it is also a matter of allowing for the analyst's personal involvement in the material presented by the patient. To use the clinical language we may say that often countertransference precedes transference; in the language of research we could say that the cognitive and affective conceptions of the analyst determine the semantic space that is possible for the patient to use. The true degree of this involvement is made more obvious by tape recording. It is remarkable how many problems an analyst has to cope with when he hands out transcripts to a colleague. They betray what ones self evaluation can easily overlook, namely that there can be a significant discrepancy between ones professional ideal and daily routine (Kubie 1958).

As Dahl (1983) has demonstrated a selecting factor operates in the psychoanalyst´s perception when dealing with the patients productions; the demand to exercise evenly suspended attention precludes only the integration on the level of everyday expectancies; it may even further the involvement on the level of unconscious role expectancies as Sandler (1976) has pointed out. These various comments on judgment and evidence formation point to a confirmation of the bipersonal understanding of the analytic situation, where real relationship and transference issues are not dissected along the line of what is real and what is phantasy, but have to be looked at as constructions in social space (Gergen 1985; Gill 1991; Hoffmann 1991).

For these reasons in the transference neurosis intra–psychic conflicts are expressed at least partially in the interaction. The way the transference neurosis develops is a function of the dyadically negotiated process (Thomä & Kächele, 1975, 1987). This form is unique to each therapeutic dyad for the reasons stated, initially conferring on each psychoanalytic treatment the status of a singular history. Nonetheless other treatment models give insufficient attention to this historical singularity.

In order to illustrate the scope of this decision we refer to Freuds models of the psychoanalytic process. His comparison with the game of chess, and particularly the opening, implies rules which constitute the game and exist independently of particular circumstances; after all, chess is played by the same rules all over the world. Then there are the strategies and tactics

applicable to the various phases of the game – e.g. , opening and end–game strategies,etc; these differ in accordance with the individual techniques of each player and are also regulated interactively in the dyadic situation, in that the individual player takes account of the presumed strength of his opponent in working out his strategies. Does psychoanalysis have something like a fixed set of game rules which can be specified in isolation from each concrete situation ? In chess it is simple to differentiate between moves which are against the rules and those which are inexpedient, but in psychoanalysis such distinctions are more difficult (Thomä & Kächele 1987, p.215). Many psychoanalysts still believe that the psychoanalytic method has this status, which can be determined in isolation from concrete objectives. Such a conception of the model of the psychoanalytic process could be justified by Freud s statement about the independence of the transference neurosis from the influence of the analyst:

"The analyst ....sets in motion a process, that of the resolving of existing repressions. He can supervise this process, further it, remove obstacles in its way, and he can undoubtedly vitiate much of it. But on the whole, once begun, it goes its own way and does not allow either the direction it takes or the order in which it picks up its points to be presented for it"(Freud 1913c, p.130).

In our reading, this statement contains many ambiguities. In fact Freud created technical rules to get as close as possible to an experiment. Although the rules are designed to prevent a social interaction between the analyst and patient, such interaction is inevitable (de Swaan 1980, p. 405). It became clear long ago that Freud's idea is futile. It has never been possible to produce the social null situation in a concrete form, although it became the central utopian phantasy of psychoanalysis.

In our view it is impossible to agree with the often made assumption that, in general, in each process, the sequence of phases is organized in the form of a linear working over of ontogenetic development (e.g. Fürstenau's (1977) process model). In terms of the ideas set out above on the interactive generation of a focus – i.e., from the interaction of the patients topic and the analysts scheme – we regard psychoanalytic therapy as a focal therapy without limitation of time and with a changing focus. Rather than a natural linearity, we consider the sequence of foci to be the result of an unconscious bargaining process between the needs or wishes of the patient and the possibilities of handling those of his analyst (Thomä & Kächele 1987, pp 345). In order to prove that point of view we embarked on a long–term

enterprise to secure the material basis of psychoanalytic processes b<y establishing a methodology of how to proceed in order to describe psychoanalytic processes.

Our research has been couched in a descriptive mode of the psychoanalytic process as it is not enough to base the theory of therapy on reported vignettes. Most of clinical psychoanalytic research.has been based on subjective reports from an unspecified population of observations and an unspecified procedure of selection (Kächele 1986). Systematic investigation, however, is necessary whether psychoanalysis is regarded as a hermeneutic or a natural science. Independent of the empirical findings and their impact for a modification of the theory a systematic approach in itself has definite consequences for psychoanalytic theory in general and especially for psychoanalytic theory of technique. Any empirical approach contains a critical attitude and presupposes operationaL considerations. One has to ask what kind of empirical data refer to certain psychoanalytical concepts.

II Research Approach and Findings

The ULM TEXTBANK

We set out to establish a data set which would represent a basis for repeated observation and measurement independent of the two parties involved. Taking up the encouraging lead of Gill et al (1968) tape–recording of sessions became the via regia for establishing the object of investigations. Since 1967 a fairly large set of recordings has been made. At present the Ulm Textbank offers a most diverse collection of texts (verbal data) on psychotherapy/ psychoanalysis and speech/ text samples from neighboring fields (Kächele & Mergenthaler 1983; Mergenthaler 1985). For the transcriptions Mergenthaler (1986) developed rules which also have now been translated to English (Mergenthaler & Stinson 1992).

At present we can provide to potential users about 40different sorts of speech, about 1000 different speakers and about 5000 sessions (see Table 1). Two–thirds of the material in the ULM TEXTBANK (UTB) has come from Ulm. The other third has been supplied as a result of scientific contacts and joint research projects with institutions outside of Ulm. In most cases these contributions were tied to actual uses the UTB services. While the donations were primarily from the field of psychotherapy, the outside users were also often linguists who did not require services of the UTB other than the provision of recordings and transcripts along with word and line counts. At present there are contacts with about 30 institutes in Germany, 4 in the United States, 2 in Sweden, 2 in Switzerland and 1 in Austria. All together, the electronically stored texts include a vocabulary of 155,000 German and 20,000 English words and a total tokens of more than 10 million.

So far, 22 psychoanalytic treatments of 8 analysts and 22 patients have been totally or partially recorded and large samples of the recorded sessions have been transcribed. Many of them are not yet as systematically investigated as the cases – Amalia X, Christian Y, Franziska X & Gustav Y – which we have placed in the center of our multi–dimensional studies. Those other analytic cases have been used for unsystematic clinical, linguistic, philosophical and theological studies by a host of analysts and scientists from other disciplines.

For our special interest in psychoanalytic process research we focussed on four of these cases on which systematic time series of recorded sessions were transcribed and stored in the Ulm Textbank. Amalia X and Christian Y

were treated by a senior analyst (H.T.), Franziska and Gustav were treated by an analyst in training (H.K.). The clinician, of course, is an important figure in this kind of psychoanalytic research and should not remain anonymous even if this puts an additional burden on the recording. We feel strongly that he has a special contribution to make in the evaluation of the empirical findings (Thomä 1985). Therefore we have not concealed being the treating analysts ourselves. However for methodological reasons, the inclusion of uninvolved third parties – other analysts or scientists from other fields – is essential and decisive in the testing of theories. The contemporary version of Freuds inseparable bond thesis consists not only in the psychoanalyst´s double role as clinician and empirical researcher but also in the integration of scientists (Thomä & Kächele 1987, p.370). The fantasied presence of third persons in the psychoanalytic situation has repercussions on the process; our studies on this subject support our clinical experience (Kächele et al. 1988)

The Empirical Approach of a Multi–level Observational Strategy

Our aim was to establish ways to systematically describe long–term psychoanalytic processes in various dimensions and to use the descriptive data obtained to examine so called process hypotheses. This entails as well the generation of general process hypotheses as well as the specification of single case process assumptions. It should go beyond general clinical ideas how a psychoanalyticprocess should unfold and specify for each patient what kind of material had to be worked on in order to achieve change in various dimensions of specified theoretical relevance for each particular case –be it structural properties or symptomatic (speech) behavior. Our approach at first did not include the recording of external measures to limit the intrusions on the clinical process (Kächele et al 1988); in a later collaborative study with A Meyer on the thought processes of the analyst we have modified this stance (Meyer 1988).

Our methodological conception consists of a four level–approach; on each level different material involving different levels of conceptualization is worked on:

A–level: clinical case study
B–level: systematic clinical descriptions
C–level guided clinical judgment procedures
D–level: computer–assisted text analysis

This multi–level approach reflects our understanding that the tension between clinical meaningfulness and objectification cannot be creatively solved by using one approach only.

The A–level: the clinical case study

The clinical case study based on good memory or even accurate process notes of the analyst fulfills an important communication function within the profession. However the use of tiny bits of material elegantly called vignettes to illustrate a point is not a convincing means f.e. to explain why Mr Z in Kohuts first treatment did not reach the goals he is claimed to have reached in the second. There is a need for such carefully prepared case–studies. In a review of the psychoanalytic literature for case reports that are larger than twenty pages of print,Kächele (1981) could conclude that.in the course of the last 30 years there has been an increase of such reports. There should be more consensus that systematic case reports like Dewalds (1972) exhaustive specimen should be published (Meyer 1992).

The B–level: Systematic Clinical Descriptions

Systematic clinical descriptions by structured points of view based on tape recording of the whole treatment and verbatim transcripts of adequate samples (1/5 of all sessions, f.e. 1–5, 26–30,....,501–505) is an important step close to clinical reasoning. Verbatim records of the sessions are used by the analyst or by a third person, however, and a new methodological perspective is operative. This clinical–descriptive step allows for an evaluation that is under some constraints: not all sessions will be available, as we work with a systematic time sample. Still, the assumption is made that the systematic analysis in fixed time intervals can capture the decisive change processes. The procedure can be performed by the analyst and others as well on the same material. So we prepared a fairly extensive report on our first case Christian Y by a joined endeavor of the treating analyst, a second analyst and a clinical psychologist in group discussion working style (Thomä et al. 1973). We used the following points of description for each of a five session period spread over the available treatment span from hour 1 to 505 in regular distances of 25 sessions:

1. external situation of the patient and treatment
2. transference / countertransference situation

3. relations of the patient to important objects outside the treatment, present and past perspectives.
4. working alliance
5. important episodes within the five sessions

A similar systematic description was prepared for our second research case, patient Amalie X, by two medical students who focussed on a descriptive study on changes of the patients body image problem as she was suffering from hirsutism as part and parcel of her neurotic difficulties (Kächele et al. 1991)

The material available after such an effort can serve many purposes besides its being a valuable achievement in itself. It helps for an easy access to an orientation on the whole case, being more detailed and more systematic as a case history which tends to be more novella–like whereas the systematic description record marks out the orderly progress of things. One can rearrange the qualitative data, concatenating all transference descriptions one after the other and by such gain a good view on the development of major transference/ countertransference issues which is illustrated by the following table:

Systematic Description of Amalia Xs Analysis:

Focal Issues (transference)
1–5: The analysis as confession
26–30: The analysis as an examination
51–55: The bad, cold mother
76–80: Submission and secret defiance
101–105: Searching her own rule
116–120: The disappointing father and the helpless daughter
151–155: the cold father and her desire for identification
176–180: Ambivalence in the father relationship
201–205: The father as seducer or judge of moral standards
226–230: Does he love me – or not ?
251–255: Even my father cannot change me into a boy
276–280: The Cinderella feeling
301–305: The poor girl and the rich king–
326–330: If you reject me Ill reject you
351–355: The powerless love to the mighty father and jealousy
376–380: Separation for not being deserted
401–405: Discovery of her capacity to criticize
426–430: Im only second to my mother, first born are preferred
451–455: Hate for the giving therapist
476–480: The art of loving consists in tolerating love and hate
501–505: Be first in saying good–by
513–517: Departure–Symphony

When a more rapid access to the distribution of major themes was desired, we used the method of Topic–Index (a term we borrowed from early work of M. Gills research team (Simon et al., 1968)) On the second case a list of salient topics was prepared by two students, based on an overview of the whole case which tailor–made covered the major issues. The presence of each topic was assessed and the resulting graphical matrix provided a good overview where and when patient and/ or analyst talked about what topic.

The C–level: Guided Clinical Judgment Procedures

Clinical description even performed by two or more observer keeps the nature of the data on a qualitative level. Though qualitative research in clinical psychology general experiences a renaissance, it may well be worth discussing that in psychoanalysis the step from transforming the rich qualitative though unsystematic knowledge into quantitative assertions is still necessary as it has even barely begun. The tool to perform this transformation consists in a simple representation of a dimensional aspect of the concept under study on a scale. A scale is an elaborate version of the primordial yes` or no distinction`that marks the beginning of any measurement operation (Knapp et al. 1975; McCall 1939). Luborsky (1984) aptly calls these operations "guided clinical judgment procedures" which catches the process of narrowing down the clinicians capacity of recording complex data. When we entered the project we felt obliged to move beyond the elaborated descriptive statements and work on the development of judgment procedures for specified conceptual dimensions like transference, working alliance, anxieties, emotional insight, suffering. On this level of our research approach various studies were performed:

1. "Transference, Anxiety and Working alliance" (Kächele et al, 1975; Kächele, 1976 ; Grünzig & Kächele, 1978)
2. "Phasing the process" (Kächele, 1988)
3. "Changes in self–esteem by (Neudert et al., 1987)
4. " Suffering" by (Neudert & Hohage, 1988)
5. "Emotional insight" (Hohage & Neudert, 1988)
6. "Cognitive changes" (Leuzinger – Bohleber 1987, 1989; Leuzinger–Bohleber & Kächele 1985, 1988)

Studies 1 & 2 were done on the Case Christian Y, studies 3–5 on Mrs Amalie X; and study 6 used five analytic cases, one diary based case and four from our stock of which larger databases as verbatim protocols are available .

The D–level: Computer–Assisted Text Analysis.

The fourth level in our research model consists in supplementing the rating of clinical concepts according to a manual by introducing the methodology of computer–based text analysis as tool to tackle the manyfold problems that are tied up with rating systems. Since then, the use of the computer as tool has been developed from content analysis to text analysis which has been described in detail elsewhere (Kächele & Mergenthaler 1983, 1984; Mergenthaler & Kächele 1988, 1991). The computer based text analysis has been used in quite a few investigations which is underscored by the following list of studies being performed with this approach on psychoanalytic material:

1. Long term transference trends (Kächele 1976, 1988, 1990)
2. Verbal activity of psychoanalysts in four psychoanalytic treatments (Kächele, 1983)
3. Redundancy in patients and therapists language (Kächele & Mergenthaler 1984)
4. Classification of anxiety themes (Grünzig & Kächele 1978)
5. Emotive aspects of therapeutic language (Wirtz & Kächele 1983)
6. Themes of anxiety as psychotherapeutic process variables (Grünzig 1983)
7. Interactional style of four therapists (Lolas et al 1983)
8. The change of body concepts in psychoanalysis (Schors & Kächele 1982)
9. Cognitive changes during psychoanalysis (Leuzinger–Bohleber 1987, 1989; Leuzinger–Bohleber & Kächele 1985,, 1988)
10. Changes of latent meaning structures in psychoanalysis (Mergenthaler & Kächele 1985)
11. Vocabulary measures for the evaluation of therapy outcome (Hölzer et al., 1991.)
12. Personal pronouns in psychoanalytic processes (Schaumburg, 1980)

The host of diverse studies that we have performed points to the richness of language as a data base for evaluating change processes during treatment. Though it is not possible to summarize the individual findings of the studies it seems evident to us that this research tool merits further

development to higher levels of achievements – which will be supported by the ongoing development of computational linguistics – and broader application of the facilities provided by the Ulm Textbank. We are impressed by the variety of processes that can be observed by these methods, but we are also impressed by the complexity of the processes which they retrieve.

With regard to the leading model for these investigations weare able to answer the question positively that phases of treatment are empirically identifiable. However the temporal extension of these phases is largely dependent on the variable under study. There are some formal variables like speech activity which demonstrate systematic long term trends clearly reflecting changes in the patients capacity to use the analytic space provided for him (Kächele 1983). There are also variables like computer assisted measurement of anxiety themes which show rapid session to session fluctuations, but averaged means point to moves that are in good correlational connections to clinically rated transference patterns (Kächele 1988). There are variables which demonstrate a cyclical pattern around a slowly moving average line like the redundancy of patients speech while the analysts redundancy remains on a stable level (Kächele & Mergenthaler 1984). There are grammatical variables like the voice construction mode that exhibit quite idiosyncratic pattern within each of the four analytic cases though all cases move from more passive to more active voice in the course of treatment (Beermann 1983). We are able to identify patterns of vocabulary assimilation that discriminate between good and poor treatment outcomes (Hölzer et al., 1991); we are able to study the subtle moves in interpersonal regulations as they become obvious by the use of personal pronouns (Schaumburg 1980) etc.

The integration of the findings of the diverse levels of our research model demands a cautious attitude; there are no one to one relationship of the diverse levels which should come as no surprise. Still, we feel a decomposition of the complex clinical constructs into better measurable components of observation leadsto refinement of the clinical theories. This has been demonstrated in the study of Leuzinger–Bohleber & Kächele which demonstrated the change in diverse cognitive modules that were derived from Clippingers (1977) artificial intelligence model. Compiling the changes on the diverse planes we could demonstrate how subtle change can be measured on a pivotal psychoanalytic concept, on patients capacity to freely associate to their dreams (Leuzinger–Bohleber 1987, 1989; Leuzinger–Bohleber & Kächele 1985, 1988).

III. New Directions and Questions

Though we have tried quite a few ways of analyzing transference it remains still a major desideratum to improve on the measurement of this key concept of psychoanalysis. After having implemented a German version of Luborskys CCRT measure (Luborsky & Kächele 1988) first analyses have been done a case of short term therapy (Kächele et al. 1990). Recently we have further refined the method by using a statistical contingency analysis on a very large sample of relationship episodes which allowed us to identify seven "repetitive relationship patterns" (Dahlbender et al 1992). As a result we are now ready to enter the analysis of transference in long term analytic cases by measuring the contingent distribution of the triangular "wish, response of the other and response of the self" conception of transference. From our recent work we expect that the conception of multiple "central relationship patterns" is more appropriate to model long term treatment transference development than the notion of a single CCRT.

Parallel to this work we work on the stabilization of the "FRAME method" as a more demanding and theoretically moresatisfying variant of the widely shared core principles methodology (Teller & Dahl 1990), Dahl et al. 1992)). With this approach we hope to demonstrate the usefulness of the frame method to test the structural congruence hypothesis between early childhood memories and dreams during psychoanalytic treatment (Hölzer et al. 1992). We hope to improve our modeling of thematic foci which has been one of our prime aims.

Furthermore research on countertransference lies still ahead of us. Though enacted countertransference has been identified by linguistic correlates (Dahl et al. 1978) non verbalized counter–reaction may be undetectable on a tape. Therefore new tools for tapping these affective involvements are a desideratum. Swings in the mood of an analyst may be detectable in the prosodic features of analysts speech a field which also has not yet found its methodology. It is clear that only by high powered computer assisted tools these phenomena can be approached in a fertile way.

By recording the analytic dialogue one is able to capture major thematic and structural developments as they surface in the verbal exchange. With regard to the recording of the covert processes in the analysts and in the patients mind during and in between the sessions, we have still a long way to go.

A methodological avenue has been opened by Meyers method of recording the analysts feelings and thought during the sessions by immediate retroreporting in a freely associative manner after the session (Meyer 1988). This line work is further pursued; by naturalizing (in Spence´s sense of the

word) a tape–recorded session by being interviewed by a colleague analyst line by line ofthe rapidly produced transcript we hope to detect the psycho–logic of interpretation more as a sequential strategy (König & Kächele, in prep.).
"

Final Remarks

Research findings have to be replicated in order to prove their value. So far we are only sure about the definite effects of our investigations on our own psychoanalytic thinking and doing and those who are close to our work. Nothing has changed our psychoanalytic thinking and doing more than the public exposure to friendly critics and critical friends. We say this in order to encourage other psychoanalysts to open the privacy of their clinical work in the endeavor to improve clinical work by letting it scrutinize by others.

We recommend the training of researchers that are also trained as clinicians and have to learn the double identifications with both tasks (Bowlby 1979). Reform of the psychoanalytic training is a consequence of this demand (Thomä 1993). We need analysts and researchers with the ability to support long term commitment with slow progress. Systematic investigations are dependent on teams supported by institutions which promote cooperation between analysts in practice and full–time researchers. Implementation of such research will move psychoanalysis out of its contemporary crises.

References

Beermann, S. (1983). Linguistische Analyse psychoanalytischer Therapiedialoge unter besonderer Berücksichtigung passivischer Sprechmuster. DiplomArbeit, UniversitätHamburg,

Bowlby J (1979) Psychoanalysis as art and science. Int Rev Psychoanal 6:3 – 14

Clippinger, J. (1977). Meaning and Discourse: A Computer Model of Psychoanalytic Speech and Cognition . Baltimore: Johns Hopkins Univ Press.

Colby, K.M, & Stoller, R.J (1991) Cognitive Science and Psychoanalysis. Analytic Press, Hillsdale

Compton, A. (1990). Psychoanalytic process. Psychoanal Quart, 59, 585–598.

Dahl H (1972) A quantitative study of psychoanalysis. Holt R & Peterfreund E. (Eds) Psychoanalysis and Contemporary Science. pp 237–257

Dahl H (1974) The measurement of meaning in psychoanalysis by computer analysis of verbal context. J Am Psychoanal Assoc 22:37–57

Dahl H (1983) On the definition and measurement of wishes. In: Masling J (Ed) Empirical Studies of Psychoanalytical Theories. (vol 1) Lawrence Erlbaum Associates, Hillsdale. pp 39-67

Dahl H, Hölzer M, Berry JW (1992) How to Classify Emotions for Psychotherapy Research. Ulm, Ulmer Textbank

Dahl H, Kächele H, Thomä H (Eds) (1988) Psychoanalytic Process Research Strategies. Springer, Berlin Heidelberg New York London Paris Tokyo. p. VII–XVI

Dahl, H., Teller, V., Moss, D. & Trujillo, M. (1978) Countertransference examples of the syntactic expression of warded–off contents. The Psychoanalytic Quarterly, 47:339–363.

Dahlbender R., Albani C., Pokorny D & Kächele H. (1992). Central relationship pattern - a structural version of the CCRT. Psychother Research, in press

Dewald PA (1972). The Psychoanalytic Process. A case illustration. Basic Books. New York London

Freud, S. (1913c). Zur Einleitung der Behandlung. SE Vol. 12, p.121

Fürstenau P (1977) Praxeologische Grundlagen der Psychoanalyse. In: Pongratz LJ (Hrsg) Klinische Psychologie, Hogrefe, Göttingen Toronto Zürich , S 847-888

Gergen, K. J. (1985). The social constructionist movement in modern psychology. Am Psychol. 40, 266–275.

Gill M (1991) Indirect suggestion: A respnse to Oremland´s Interpretation and Interaction. In: Oremland JD Interpretation and Interaction. Psychoanalysis or Psychotherapy. The Analytic Press, Hilldsdale, NJ, p 137-163

Gill MM, Simon J, Fink G, Endicott NA, Paul IH. (1968). Studies in audio–recorded psychoanalysis. I. General considerations. J Am Psychoanal Ass 16:230–244

Grünzig H (1983) Themes of anxiety as psychotherapeutic process variables. In: Minsel R, Herff W (Eds) Methodology in Psychotherapy Research. (Vol 1 Frankfurt, Peter Lang, pp 135–142

Grünzig H, Kächele H (1978) Zur Differenzierung psychoanalytischer Angstkonzepte. Ein empirischer Beitrag zur automatischen Klassifikation klinischen Materials. (On the automatic differentiation of clinical material) Z. Klin. Psychol. 7:1 – 17

Hanly C (1992) Inductive reasoning in clinical psychoanalysis. Int J Psycho-Anal 73:293-301

Hölzer M, Kächele H, Mergenthaler E, Luborsky L (1992) Vocabulary measures for the evaluation of therapy outcome: studying the transcripts from the Penn Psychotherapy Project (PPP). Psychotherapy Research (submitted)

Hölzer M, Zimmermann V, Kächele H (1992) The frame method and and structural congruence hypothesis between early childhood and dreams during psychoanalysis. Paper at the annual meeting of the Society for Psychotherapy

Hohage R, Kübler JC (1988) The emotional insight rating scale. In: Dahl H, Kächele H, Thomä H (Hrsg) Psychoanalytic process research strategies, Springer, Berlin, Heidelberg, New York London Paris Tokyo , S 243-255

Isaacs S (1939) Criteria for interpretation. Int J Psychoanal 20: 853-880

Kächele H (1976) Maschinelle Inhaltsanalyse in der psychoanalytischen Prozessforschung (Computerized content analysis in psychoanalytic process research) Medizinische Habilitationsschrift, Universität Ulm; PSZ–Verlag Ulm 1986

Kächele H. (1981). Zur Bedeutung der Krankengeschichte in der klinisch–psychoanalytischen Forschung. (On the role of the case history in clinical–psychoanalytic research) Jahrbuch Psychoanal. 12:118–178

Kächele H (1983) Verbal activity level of therapists in initial interviews and long–term psychoanalysis. In: Minsel RW & Herff W (Eds) Methodology in Psychotherapy Research. Lang, Frankfurt, Vol. S 125–129

Kächele H (1986) Validating psychoanalysis: what methods for what task. The Behavioral and Brain Sciences 9: 244

Kächele, H. (1988). Clinical and scientific aspects of the Ulm process model of psychoanalysis. Int J Psychoanal, 69, 65–73.

Kächele H (1990) From clinical investigation to systematic empirical research. The Ulm Psychoanalytic Process Research Program – a 20 year review. Psychotherapy Research 2: 1–15

Kächele, H., Dengler D, Eckert R, & Schnekenburger, S. (1990). Veränderung des zentralen Beziehungskonfliktes durch eine Kurztherapie. PPmP Psychother med Psychol, 40, 178–185.

Kächele, H., Ehlers, W., & Hölzer, M. (1991). Experiment und Empirie in der Psychoanalyse. In F. Schneider, M. Bartels, H. Gaertner, & K. Foerster (Eds.), Perspektiven der Psychiatrie. Forschung–Diagnostik–Therapie. Stuttgart: Gustav Fischer.

Kächele, H., & Mergenthaler, E. (1983). Computer–aided analysis of psychotherapeutic discourse. In Minsel R & Herff W (Eds.), Methodology in Psychotherapy Research. Vol. 1 (pp. 116–161). Frankfurt: Peter Lang.

Kächele H, Mergenthaler E (1984) Auf dem Wege zur computerunterstützen Textanalyse in der psychotherapeutischen Prozessforschung. (on the way to computer assisted textanalysis in psychotherapeutic process research) In: Baumann U (Hrsg) Psychotherapie: Makro/Mikroperspektive. Verlag für Psychologie Dr. Hogrefe, C J, Göttingen, S 223–239

Kächele H, Schmieder B, Schinkel A (1991) Fokus und Übertragung. (Focus and transference) Abteilung Psychotherapie, 3/91

Kächele H, Thomä H, Schaumburg C (1975) Veränderungen des Sprachinhaltes in einem psychoanalytischen Prozeß. Schweizer Archiv für Neurologie, Neurochirurgie und Psychiatrie 116: 197-228

Kächele, H., Thomä, H., Ruberg, W., & Grünzig, H. (1988). Audio–recordings of the psychoanalytic dialogue: scientific, clinical and ethical problems. In: H Dahl, H Kächele & H Thomä (Eds) Psychoanalytic Process

Research Strategies (pp. 179 – 194). Berlin Heidelberg New York Tokyo: Springer.
König, H. Kächele H (1993). Zur Naturalisierung psychoanalytischer Prozesse. Manuscript in prep,
Knapp PH, Greenberg RP, Pearlman CH, Cohen M, Kantrowitz J, Sashin J (1975) Clinical measurement in psychoanalysis: an approach. 44: 404-430
Kohut H (1979a) The two analyses of Mr. Z. Int J Psychoanal 60: 3-27
Kubie L (1958) Research into the process of supervision in psychoanalysis. Psychoanal Quarterly 27:226-236
Leuzinger–Bohleber, M. (1987). Veränderung kognitiver Prozesse in Psychoanalysen. Bd 1: Eine hypothesengenerierende Einzelfallstudie. Berlin, Heidelberg, New York, Tokyo: Springer.
Leuzinger–Bohleber, M. (1989). Veränderung kognitiver Prozesse in Psychoanalysen. Bd 2: Eine gruppen–statistische Untersuchung. Berlin, Heidelberg, New York, Tokyo: Springer.
Leuzinger–Bohleber M, Kächele H (1985) Veraenderte Wahrnehmung von Traumgestalten im psychoanalytischen Prozess. in D Czogalik, W Ehlers, R Teufel (Eds) Perspektiven der Psychotherapieforschung. Hochschulverlag, Freiburg
Leuzinger–Bohleber M, Kächele H (1988) From Calvin to Freud: Using an artificial intelligence model to investigate cognitive changes during psychoanalysis. In: Dahl H, Kächele H, Thomä H (Eds) Psychoanalytic Process Research Strategies. Springer, Berlin Heidelberg New York London Paris Tokyo, pp 291–306
Lolas F, Mergenthaler E, Kächele H (1983) Interactional style of four therapists. In: Minsel W, Herff W (Eds) Methodology in Psychotherapy Research. (vol 1) Peter Lang, Frankfurt, pp 142–149
Luborsky L (1984) Principles of Psychoanalytic Psychotherapy. A Manual for Supportive-Expressive Treatment. Basic Books, New York
Luborsky L, Spence D (1971) Quantitative research on psychoanalytic therapy. In: Bergin A, Garfield S (Eds) Handbook of Psychotherapy and Behavior Change. 1 st ed. Wiley, New York, pp 408–438
Meissner WW (1983) Values in the psychoanalytic situation. Psychoanal Inquiry 3: 577-598
Mergenthaler E (1985) Textbank Systems. Computer Science Applied in the Field of Psychoanalysis. Springer, Berlin Heidelberg New York
Mergenthaler E (1986). Die Transkription von Gesprächen. Ulmer Textbank. Ulm
Mergenthaler, E., & H, Kächele. (1985). Changes of latent meaning structures in psychoanalysis. Sprache und Datenverarbeitung, 9, 21–28.
Mergenthaler E, Kächele H (1988) The Ulm Textbank management system: A tool for psychotherapy research. In: Dahl H, Kächele H, Thomä H (Eds) Psychoanalytic Process Research Strategies Springer, Berlin Heidelberg New York London Paris Tokyo, pp 195–212

Mergenthaler E, Kächele H (1991) The Ulm Textbank Research Programm. In: Beutler L & Crago M (Eds) International Psychotherapy Research Programs. Pergamon, New York, London, p.

Mergenthaler E, Stinson CH. (1992). Transcriptions transcription standards. Psychotherapy Research. 2:125–142

Meyer AE (1988) What makes psychoanalysts tick? In: Dahl H, Kächele H, Thomä H (Eds) Psychoanalytic Process Research Strategies. Springer, Berlin Heidelberg New York London Paris Tokyo, pgs. 273–290

Meyer A (1990) Psychoanalytische Forschung für das Ende des Jahrhunderts. In: Sigmund-Freud Institut (Ed) Empirische Forschung in der Psychoanalyse. Frankfurt, pp 8-26

Meyer AE (1992) Nieder mit der Fallgeschichte / es lebe der Behandlungsbericht. in Denecke F., & Stuhr U. (1992) Die Kunst der Fallgeschichte. Asanger Verlag, Heidelberg

Neudert L, Hohage R (1988) Different types of suffering during a psychoanalysis. In: Dahl H, Kächele H, Thomä H (Eds) Psychoanalytic process research strategies, Springer, Berlin, Heidelberg, New York

Pulver SE (1987) Epilogue to "How theory shapes technique: perspectives on a clinical study". Psychoanal Inquiry 7: 289-299

Sandler J (1976) Countertransference and role-responsiveness. Int Rev Psychoanal 3:43-47.

Sandler, J. (1983). Reflections on some relations between psychoanalytic concepts and psychoanalytic practice. Int J Psychoanal, 64, 35–45.

Sandler, J. Dreher AU, Drews S (1991). An approach to conceptual rewsearch in psychoanalysis illustrated by a consideration of psychic trauma. Int Rev. Psycho-Anal. 18: 133-142

Schaumburg, C. (1980). Personal pronomina im psychoanalytischen Prozess. Doctoral Dissertation, Ulm.

Schaumburg C, Kächele H, Thomä H (1974) Methodische und statistische Probleme bei Einzelfallstudien in der psychoanalytischen Forschung. Psyche 28:353-374

Schors R & Kächele H (1982) Computer–aided content analysis in the study of body concepts Lecture at European Congress of Psychosomatic Research in Noorwijkerhout, Holland, Sept. 82

Simon J, Fink G, Endicott NA, Paul I, Gill M (1968) Psychoanalytic research and the concept of analytic work. Unpublished Manuscript, Department of Psychiatry, Brookdale Hospital Center, Brooklyn, New York

Spence, D. P. (1968). The processing of meaning in psychotherapy: Some links with psycholinguistics and information theory. Behav Sci., 13, 349–361.

Spence, D.P (1969). Computer measurement of process and content in psychoanalysis.Transactions of the New York Academy of Science, 31, 828–841.

Spence D. (1986) When interpretation masquerades as explanation. J Am Psychoanal Assoc 34:3-22

Spence, D. P. & Lugo, M. (1972). The role of verbal clues in clinical listening. Psychoanal Contemp Science 1, 109–131.
Strenger, C. (1991). Between Hermeneutics and Science. An Essay on the Epistemology of Psychoanalysis. Madison: International Universities Press.
Swaan Ad (1980) On the sociogenesis of the psychoanalytic situation. Psychoanal Contemp Thought 3:381-413
Teller V , Dahl H (in press) The characteristics, identification and applications of FRAMES. Psychotherapy Research, in press
Thomä H (1985) The role of the clinician in psychoanalytic process research. Paper at the international workshop for "Empirical Research in Psychoanalysis" Ulm 1985
Thomä, H. (in press). Training analysis and psychoanalytic education: Proposals for reform. Annual of Psychoanalysis
Thomä H, Grünzig HJ, Kächele H (1976) Das Konsensusproblem in der Psychoanalyse. Psyche 30:978–1027
Thomä H, Kächele H (1973) Psychoanalytische Verlaufsforschung, Teil B. DFG–Bericht, unpublished.
Thomä H, Kächele H (1975) Problems of metascience and methodology in clinical psychoanalytic research. Annual of Psychoanalysis III:49–119
Thomä H, Kächele H (1987). Psychoanalytic Practice. Vol 1 Principles. Springer. Berlin, Heidelberg, New York, London, Paris, Tokyo
Thomä H, Kächele H (1992). Psychoanalytic Practice. Vol. 2: Clinical Studies Springer. Berlin, Heidelberg, New York, Paris, London
Thomä H, Houben A (1967) Uber die Validierung psychoanalytischer Theorien durch die Untersuchung von Deutungsaktionen. Psyche 21:664–692
Wirtz EM, & Kächele H (1983) Emotive aspects of therapeutic language: a pilot study on ver–adjective–ratio. In: Minsel WR, Herff W (Eds) Methodology in Psychotherapy Research. Lang, Frankfurt am Main, pp 130–135

Department of Psychotherapy
Ulm University
Am Hochstr 8
7900 Ulm, FRG"

Table 1

Text type	Number of Units		
	Patients	Therapists	Sessions
1 Counseling	1	1	4
2 Short Term Therapy (1x a week)	16	8	170
3 Psychoanalytic Therapy (2 x a week)	29	24	170
4 Psychoanalysis (4 x a week)	22	8	1103
5 Marital Therapy	*1	1	2
6 Family Therapy	32	5	32
7 Group Therapy *			
9 Group Work	*3	1	3
11 Behavior Psychotherapy	2	1	1
12 Initial Interview	349	31	374
13 Initial Interview Report	232	13	378
14 Psychotherapy Case Notes	3	2	19
15 Psychoanalysis Case Notes	2	1	158
18 Balint Group Work	2	1	53
19 Self-experiential Group	4	1	4
20 Dreams	2	2	123
22 Psychological Testing	84	5	227
23 Catamnestic Interview	55	3	57
24 TAT (Thematic Apperception Test)	72	6	72
25 "Narrative"	72	6	72
26 Genetic Counseling	29	4	29

* Quite a few recordings and transcriptions have been made years before the Ulm Textbank was operating; the stand of transcriptions did not allow to include these materials.

** Couple, familiy, group

29 Individual Reports	1	19	19
30 Scientific Report	1	40	40
32Cognitive-behavioral therapy	1	1	20
33 Supervision	6	5	15
34 Psychiatric Interview	24	5	24
36 Family Interview	2	1	1
37 Interactional schema-analytic Therapy	1	1	28
39 Semi standardized Interview	11	1	11
99 Other Total	45	8	72

..Total	882	162	2311