

Multimethod process research as strategy of single case approaches

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Introduction.

Lawrence Kubie's (1952) lectures on the scientific status of psychoanalysis touched on the cornerstones of an agenda that was to become the field of psychoanalytic process research. The neighbouring field of psychotherapy research reached a first institutional visibility with the establishment of the Society for Psychotherapy Research in 1968 where "quantitative research on psychoanalytic therapy" (Luborsky & Spence 1971) as stepchild of psychoanalysis could find a foster home. The slow development of the special psychoanalytic research community contrasted to the expanding world of psychotherapy research. Obstacles to systematic empirical research are plethora; twenty years ago in 1971 they were carefully discussed by Luborsky (1971) and Wallerstein (1971). The 1985 conference on "psychoanalytic process research strategies" (Dahl et al. 1988) in Ulm - before the Hamburg International Psychoanalytical Congress - marked "the surprisingly rapid evolution of psychodynamic psychotherapy research from an applied toward a basic science" as Hartvig Dahl characterized it (p.VII).

This lecture consists of three steps: first I shall make a few general remarks about general issues in process research, then I shall outline a collaborative research project using a multi-method approach, third then I will give you results generated with one of the methods.

Studying the psychoanalytic processes involves strategic decision right at the beginning:.

a. which of the many models

b. how to approach: top-down or bottom-up.

c. how many cases

d. which methods should one use

a. which of the many models

As we all are aware of there is a multiplicity of meaning of the notion "psychoanalytic process"; so many theories, so many models of the analytic process (Compton 1990). There is no shared opinion whether models have to be tested or are but language games useful for those who use them (Wittgenstein). Our investigations have been guided by a working model of the process which encompasses all of the steps along the way from the start of a patient/analyst contact to its termination. The methodological specificity of the psychoanalytic process is produced by the analytic method which prescribes a specific discourse - with evenly hovering attention and free association as functional units. The impact of these rules on both parts sets in motion a process which transforms covered processes within the patient (transference dispositions) into relationship patterns between patient and the analyst. This notion of process is a broad one and allows for variation of psychoanalytic processes from short to long treatments.

b. Top down or bottom up ?

Where to begin in process research is not an easy choice. One of the important choices is called top-down or bottom-up. Top down approaches take a piece of psychoanalytic theory, devise a method for catching the salient observable features of the theory and establishes a formal procedure to test. Well known examples for this approach are J Weiss' and H Sampson's (1986) work contrasting an early theory of drive-defense regulation with a later theory called control-mastery. (Neudert et al. 1990), also. M. Gill's and I Hofman's (1982b; Hoffman u. Gill 1988) method for studying the patient's experience of the

relationship with the therapist (PERT) belongs into this category; likewise Luborsky and Crits-Christoph's glorious work on "understanding transference" (Luborsky u. Crits-Christoph 1990) falls clearly under this heading. Bucci's dual code model (Bucci 1985) for psychoanalytic process research demonstrates a variant by selecting a theory that is "compatible with psychoanalysis, but that is informed by the new perspectives on mental functioning" (Bucci 1988) (p.31). A similar reasoning has informed (Leuzinger-Bohleber u. Kächele 1988) in their study on cognitive changes.

Bottom-up approaches start with very low-level theories, everyday theory so to speak, first establishing descriptive worlds. The recommendations runs something like going out and catching butterflies, plants etc Bottom-up experts tell us that the field is not yet ripe for sophisticated process-outcome research studies (Grawe 1988b). The bottom-up methods are defining observables which do not have a clear relationship to the specific higher level theory of psychoanalysis. However, careful observational work will have reverberations on psychoanalytic theorizing of the process. Both strategies have their standing, the choice is likely to be a researchers hobby horse.

c. how many cases do you need

Set aside all philosophical reverberations (Edelson 1985), practical experience bespeaks that psychoanalytical process research has been single case research Case histories as substantial as Dewald(1972)'s voluminous description demonstrate the research value of clinical carefully reported single case studies (Kächele 1981b). Hartvig Dahl's (1972; 1974) analysis of 363 sessions of a young lady in treatment provides an example of the dedicated collaboration of the treating analyst with with a researcher when providing a thematic topic index for the treatment. There is the famous case of Mrs C, tape recorded to demonstrate that "it can be done"; studied intensively by now by a host of researchers on the East and Westcoast of the United States (Bucci 1988; Dahl 1988; Horowitz 1977; Jones u. Windholz 1990; Weiss et al. 1986)

It has been our strategy too first to investigate within the single case as we did with our patients Christian Y (Kächele 1976; Kächele 1988b; Kächele 1990; Kächele et al. 1975) and Amalie X (Hohage u. Kübler 1988; Kächele u. Schmieder 1991; Neudert u. Hohage 1988); we then aggregated the cases when we felt safe enough to formulate a hypothesis that was worth testing in a sample (Kächele 1983; Leuzinger-Bohleber u. Kächele 1988; Schaumburg et al. 1974).

d. which methods should one use

After many years of psychotherapy research there are many diverse methods. In most of the projects only one is used and seldom enough different methods have been applied to the same case material (Gottschalk 1961). The conception of a collaborative project called PEP (Psychotherapeutische Einzelfall-Prozessforschung - psychotherapeutic single case process research) is directed to this objective, to allow direct comparison of many methods by applying them to the same clinical material.

A few years ago Prof. Klaus Grawe (Department of Clinical Psychology, Berne Switzerland) and myself set out to organize a group of scientists who would be willing to share this task. Our intention was to compare methods available in psychotherapy research on two therapies. For the two cases used for the comparison, extensive clinical case reports were prepared by independent observers on the basis of the verbatim transcripts which are commented by the therapist. Both cases were described in terms of the two basic theoretical perspectives involved, from a psychoanalytic perspective and a schemaanalytic perspective. Together with the complete verbatim transcripts of both therapies this systematic clinical material provides all participants of the project with a firm anchoring in the clinical reality of the two treatments involved.

By chance it happened that both patients were male young adults 25 years of age, one suffering from mild obsessive symptoms of long standing, the other suffering from anxiety states with psychosomatic symptoms. One was treated by

a psychoanalytic focal therapy, the other with a behaviourally oriented therapy, called schema-analytic therapy. Both treatments lasted 29 sessions.

By giving examples of the methods that are applied to the two cases it will become apparent to you that the spirit of the project is not to organize a competitive race among treatments but to learn more about the usefulness of various methods for describing therapeutic processes.

In the last years qualitative methods have found renewed interest in German clinical psychology (Jüttemann 1990); this development has left its mark already on the PEP project. Though quite a few of the qualitative approaches to be mentioned soon, are just in the phase of a mere beginning their analyses, the very fact that our project attracts these approaches seems worthwhile to be mentioned. One of the major incentives for the basically methodological orientation of the project derives from Grawe's longstanding experiences with comparative psychotherapy studies which led him to the development of his concept of a heuristic psychotherapy (Grawe 1987). In this concept so-called plan analyses are a major tool to discover the patient's negative self schemas which constitute the core of the neurotic disabilities. For both cases the structural relations of concrete and very detailed segments of behavior to hierarchically higher concepts, called plans, will be analyzed. An initial plan analysis serves as a starting ground for the observation of changes in the structural properties of the patients' plans. Though this plan analysis formally has to be considered as a qualitative approach, it should be pointed out that the way of achieving the final plan formulation is part of a process of ongoing group discussion and constant reevaluation. Its strength also lies in the descriptive tool that has been developed to represent the plan by graphic means which again allows for easy access and thus critical discussion.

The other qualitative methods can be classified as instantiations of the discourse analysis model introduced in the field by Labov and Fanshel (1977); they differ in terms of their theoretical underpinnings, they all share the very detailed painstaking process of analyzing small segments of speech. Thus they are ideal for understanding the microprocesses of dyadic processing of the therapeutic work, but they are unable to convey a broad overview of the whole of the process.

For example the method of objective hermeneutics is based on the assumption that in interactions structures of meaning emerge that are only partially intended by the acting subjects. The method of interpretation aims at elucidating these structures of meaning and studying the selective handling of these structures by the acting persons involved. Analyzing the first five minutes produced a manuscript of more than fifty pages however reaching consistent patterns of the way therapist and patient organized the scene for therapeutic action (Leber & Oevermann 1991).

Another qualitative approach consists in a content analysis which derives its categories of analysis from literary action theory in the line of structural semantics. It allows a reconstruction of pre - and unconscious staging of interpersonal conflicts as represented in the narratives frequently occurring in therapeutic sessions (Boothe 1991). These approaches underline that the very exquisite predominance of language as carrier of the work in psychotherapy makes the field very attractive for researchers from discourse analysis.

Psychotherapy as an interactional staging of intrapsychic conflicts needs very detailed systems for scoring interpersonal action. The Structural Analysis of Social Behavior by Lorna Benjamin (1974) is becoming very popular among psychotherapy researchers since Strupp (1980a, 1980b, 1980c) has begun to use it for detailing the results of his Vanderbilt studies. A system for coding therapeutic interactions has been developed by Revenstorf (Tübingen); another system has been developed since many years by a group in Stuttgart on various

therapies from different theoretical background which works explicitly on a multi-level assumption of coding interactions (Czagalik & Hettinger 1987, 1988, 1989).

To have three approaches that are claiming to cover very similar ground will be a great chance to compare the methods in terms of utility, fertility and time consumption. This after all is not a small aim in our project to learn more which methods with which effort yield sensible data to work with on in further more cross sectional oriented studies.

A set of other method is primarily directed to analyze definite clinical concepts in terms of an top-down approach. The phenomenology of resistance is analyzed from a behavioral point of view, as well by a formalized system for coding resistance on the background of psychoanalytic theory We are expecting difficulties when an exquisite psychoanalytically oriented tool will be applied to the Bernese heuristic therapy. This might also be relevant when the method for coding emotional insight which has been applied already to the Ulm case will try its specificity on the Bern case.

The Gottschalk-Gleser method for coding affective states (1969) in spoken language has become one of the time-honoured methods by now and has been one of the few methods in process research that have achieved the status of an accepted method.

Another psychoanalytically informed approach is to evaluate changes in cognitive processes, which has been used to study change in five longterm psychoanalyses (Leuzinger-Bohleber & Kächele, 1988).

Well known among psychotherapy researchers is Luborsky's Core Conflictual Relationship method for which a German manual has been provided (Luborsky & Kächele 1988; Luborsky & Crits-Christoph 1990); the changes of the CCRT over the course of treatment has been analyzed for the Ulm case; the results underscore Luborsky's findings that the wish component shows only small change whereas the components called reactions from the object and reactions

from the self are well suited to detect change induced by therapy. Another measure for the transferential aspects proposed by Gill & Hoffmann (1982), the method of the "patient's experience with the relationship to the therapist", the PERT method, needs a highly sophisticated clinician and involves a fair amount of interpretative skill to grasp the specific notion of the resistance against transference. It seems to be one of the methods that make a lot of sense from the clinical point of view, but have still a long way to go before they can be reliably used. By this it denotes a specific dilemma of psychoanalytic process research that is inclined to prematurely focus on the sophisticated concepts of our theory of therapy.

The Ulm group contributes the tool of computer assisted text analysis to the project (Mergenthaler 1985; Mergenthaler & Kächele 1988): In this study we are foremost focusing on the analysis of vocabulary. One approach analyzes the usage of grammatical wordforms; another approach gives special attention to emotion words which are classified in terms of Dahls theory of emotions. To become more concrete in the presentation I shall focus on the last mentioned method, as the results for both therapies are already available.

In the frame of the PEP project our approach compares the two therapies, a psychodynamic and a cognitive-behavioral one. In a first step all adjectives and substantives of the text were identified that in our opinion belong to the emotional field or indicate affect.

In a second step a category system, derived from Hartvig Dahl's theory of emotions as "appetites and messages", was used to arrive at a classification of these words into distinct categories.

Table Dahl's decision tree

Based on de Rivera's "decision theory of emotions", in Dahls classificatory approach, three dichotomous steps lead to eight categories for classification:

The first decision relates to the question whether the labeled affective state refers to an external object or whether it describes a self-related state. Object emotions, conceived of by Dahl as appetitive wishes, are also called it-emotions and self-related feelings me-emotions. In Dahls theory me-emotions are messages or beliefs about the state of wishfulfilment in the realm of object-related wishes. The second step decides on a positive or negative evaluation of the feeling state. The third step classifies the object emotions in terms of directionality, whereas self emotions are judged on a passiv - active dimension. The classification into the categories of Dahl's theory of emotions thus results in 8 categories: It emotions: Love, Surprise, Anger, Fear. Me-emotions: Contentment, Joy, Depression, Anxiety. (Dahl & Stengel 1978)

The classification of the emotional vocabulary was performed by two independent raters, reliability of coding reached 70%. The classification of differently judged words was resolved by discussion and consensus of the two raters.

* The project represents shared work of Dr. M. Hölzer, Dr. D. Pokorny, Dipl. Psych N. Scheyt & myself

A critical issue relates to the role of verbs as words carrying emotional meaning. Although from a theoretical point of view they seem to be highly relevant, our experience indicates that verbs show a much higher contextual dependency with regard to their emotional significance. This in turn lowers the validity of the categories. We therefore developed two versions of the Affective Dictionary, one with and one without verbs as entries.

Table 1. Categories five of the affective dictionary for example reads as follows:

Computer assisted content analysis by means of this "Affective Dictionary" allows separating the dialogue into speakers, sessions and (for some questions) into utterances as well. The programme checks the verbal exchange for entries, marks them and computes a total score for each of the categories for each session or whatever the summarizing unit of analysis may be.

Table 2. the ADU coding in the text

3. The comparison of the two PEP-cases

Focusing on the emotional vocabularies as they appear distributed in the eight Dahl categories we see the following picture:

Table 3. Emotional Vocabularies

Three conclusions can be made: 1) In the Ulm therapy, quantitatively more affective labels, are used compared to the Bernese case. 2) Qualitatively, as it was in the overall vocabulary more different entries are found in the affective dictionary of the Ulm therapy 3) Both therapists use significantly more emotional labels than their patients. In other words the therapists speech displays a higher degree of "affective density" than patients speech.

Table . Comparison Ulm- Berne

A category-based comparison of both therapies produces the following result: The Ulm case is primarily a therapy on object emotions, the Berne case focuses more on self emotions. Not only that this difference is statistically highly significant ($p = < 0.01$), it can be reproduced by a cluster analysis of the four emotional vocabularies. The speakers talking to each other in one therapy show a higher degree of similarity than speakers across therapies. The cluster-analytic distances within therapies are impressively different:

Table Cluster Analysis

Here, the Ulm speakers are fairly close and the Bernese speakers rather distant from one another. Since we are still lacking data on other dyads, it is difficult to interpret these differences.

Table Affective Dictionary in the Berne Case

Closer investigation of how these distances between patients and therapists come about, reveals that in the Bernese case the patient's vocabulary is characterized by a strong prevalence of self emotions. Interestingly, the therapist's vocabulary seems not only to be much more balanced as to the different categories. Compared to his patient the therapist is emphasizing object emotions.

Table Affective Dictionary in the Ulm Case

The match in "affective style" so to speak is in the Ulm case more distinct. Although, the therapist has higher scores in categories 1 (love) and 3 (satisfaction), whereas the patient exhibits higher levels in categories 4 (joy) and 5 (anger)

One advantage of the Ulm Textbank system is demonstrated by having the possibility to compare the Ulm therapist's affective dictionary in this short term therapy with his mean lexical choice as to affective labels in other therapeutic settings.

Table Affective Dictionary of the Ulm Therapist in Initial Interviews and long term psychoanalysis with Male Patients

Compared to his mean values in 17 initial interviews with male patients, the Ulm therapist in this case significantly prefers categories 1 and 2 by which he seems to be emphasizing the identification of wishes for positive object relations. These case specific deviations from his statistical **norm** as it were correspond to the focus of the treatment as described in the therapist's initial assessment. There he interprets the compulsive symptom of the patient as a rejected longing for gratifying early object-relations. The emphasis on categories love (1) and attraction (2) seem to reflect the work on aversive and therefore warded off emotional states pretty well.

Table Total Amount of verbalized Emotions in the Berne Case

Over the course of treatment in the Berne case the total amount of verbalized emotions shows an initial decrease and from hour 6 on a steady rise. Upon examination of the transcripts we found that the patient mainly was inhibited in his affective utterances by feelings of insecurity about the setting. Characteristically for the Berne case are phases of very high affect synchronization for

example in hours 1- 8 or in the final hours of the treatment. The curves of patient and therapist in these phases correlate .95 and .85. The reason why is still up to speculation, but we would think these phenomena are worth further detailed study.

Table Total Amount of Verbalized Emotions in the Ulm Case

In comparison, the "affective density" in the Ulm case stays more or less constant. It can be speculated that the maximum in hour 19 and the minimum in hour 20 were also caused by a setting change: In hour 20 the girlfriend of the patient was participating and (therefore?) the patient did not talk about emotional material any more.

Table Course of Self- / Object- Emotions (Therapist) in the Bernese Case

Perhaps the most interesting finding of this study relates to different therapeutic strategies as they might be reflected in changes of emotional vocabulary. In the Bernese case the ratio between self and object emotions increases significantly over the course of treatment. This effect is clearly more distinct in the therapists vocabulary compared to the development in the patient. Put into Dahl's theory of self-emotions as messages, that means information about the state of wishfulfilling, the therapist more and more tries to help the patient to become conscious of inner states and beliefs.

Table Course of Self- and Object-Emotions in the Ulm Case

In the Ulm case the proportions are somewhat different hinting at a different therapeutic strategy. In correspondance with the psychodynamic treatment rationale where subjective states of dysphoria, that means patient utterances with

active and passive negative self-emotions, have to be translated into object-related affects, we find an opposite course: In the therapists vocabulary high levels of self emotions at the beginning decline constantly through therapy. It seems fair to speculate that at the beginning of therapy the empathic stance of the therapist is reflected by mirroring self-states, the growth of his interpretative attitude by the relative increase in object emotions.towards the end.

As in the Bern case this trend is more distinct in the therapists' vocabulary, the patient again tends to follow. But clearly the question for the trendsetter so to speak cannot be answered from this correlational approach alone. What might help to enhance this knowledge on macroscopic trends, is to look for more detailed, microscopic information in the verbal dialogue.

Table Coding of Emotional Vocabulary in the Therapeutic Dialogue

In this episode it becomes obvious, how the therapist translates negative self emotions that means **complaints** into object emotions, in this case: **accuses**. The patients starts with describing his feelings of anxiety (category 8) and feelings of being left alone (category 7). Both categories get picked up and reverbalized by the therapist, who in turn in his utterance adds category 5, anger of the patient against his parents who disregard his strong wishes for attachment. Then, the next patient utterance is literally "full" of anger and rebellion, both categories 5. Since quite a few similar episodes can be identified in the Ulm therapy, the underlying therapeutic strategy in a way turns Freud around:

Where Ego (i.e. self emotions) is , Id (i.e. object emotions) should be.

Bibliography

- Benjamin LS (1974) Structural analysis of social behavior. *Psychol Rev* 81:392-425
- Boothe B (1991) Analyse sprachlicher Inszenierungen - Ein Problem der Psychotherapieforschung. *PPmP Psychother Med Psychol* 41:22-30
- Bucci W (1985) Dual coding: a cognitive model for psychoanalytic research. *J Am Psychoanal Assoc* 33:571-607
- Bucci W (1988) Converging evidence for emotional structures: Theory and method. In: Dahl H, Kächele H, Thomä H (Eds) *Psychoanalytic process research strategies*. Springer, Berlin Heidelberg New York, S
- Compton A (1990) Psychoanalytic process. *Psychoanal Quart* 59:585-598
- Czagalik D, Hettinger R (1987) The process of the psychotherapeutic interaction: a single case study. In: Huber W (Ed) *Progress in psychotherapy research*. Presses Universitaire de Louvain, Louvain-la-Neuve, S
- Czagalik D, Hettinger R (1988) Mehrebenenanalyse der psychotherapeutischen Interaktion: Eine Verlaufsstudie am Einzelfall. *Z Klin Psychol* 17:31-45
- Czagalik D, Hettinger R (1989) Stochastische Modelle in der Psychotherapie-Prozeßforschung. *Forschungsbericht Nr. 6 der Forschungsstelle für Psychotherapie*, Stuttgart
- Dahl H (1972) A quantitative study of psychoanalysis. *Psychoanalysis and contemporary science* 237-257
- Dahl H (1974) The measurement of meaning in psychoanalysis by computer analysis of verbal context. *22:37-57 J Am Psychoanal Assoc*
- Dahl H (1978a) A new psychoanalytic model of motivation. *Emotion as appetites and messages. Psychoanal Contemp Thought* 1:373-408
- Dahl H (1979b) The appetite hypothesis of emotions: a new psychoanalytic model of motivation. In: Izard CE (Eds) *Emotions in personality and psychopathology*. Plenum Press, New York, S 199-225
- Dahl H (1983) On the definition and measurement of wishes. In: Masling J (Eds) *Empirical studies of psychoanalytical theories*. (vol 1, Bd Lawrence Erlbaum Associates, Hillsdale, New York, S 39-67
- Dahl H (1988a) A theory of emotions as appetitive wishes and beliefs about their fulfilment. In: Safran J, Greenberg L (Eds) *Affective change events in psychotherapy*. Academic Press, New York,
- Dahl H, Stengel B (1978) A classification of emotion words: a modification and partial test of de River's decision theory of emotions. *1:269-312 Psychoanal Contemp Thought*
- Dahl H (1988) Frames of mind. In: Dahl H, Kächele H, Thomä H (Eds) *Psychoanalytic Process Research Strategies*. Springer, Berlin, Heidelberg, New York, London, Paris, Tokyo, S 51-66
- Dahl H, Kächele H, Thomä H (Eds) (1988) *Psychoanalytic process research strategies*. Springer, Berlin Heidelberg New York London Paris Tokyo
- Dewald PA (1972) *The psychoanalytic process. A case illustration*. Basic Books, New York London
- Edelson M (1985) The hermeneutic turn and the single case study in psychoanalysis. *Psychoanal Contemp Thought* 8:567-614
- Gill MM, Hoffman IZ (1982) A method for studying the analysis of aspects of the patient's experience in psychoanalysis and psychotherapy. *J Am Psychoanal Assoc* 30:137-167
- Gottschalk L (Hrsg) (1961) *Comparative analysis of psychotherapeutic interviews*. New York
- Gottschalk LA, Gleser GC (1969) *The measurement of psychological states through content analysis of verbal behaviour*. University of California Press, Berkley, Los Angeles
- Grawe K (1987) Die Effekte der Psychotherapie. In: Amelang M (Hrsg) *Bericht über den 35. Kongress der Deutschen Gesellschaft für Psychologie in Heidelberg 1986*. Hogrefe, Göttingen, S 515-534
- Grawe K (1988a) Psychotherapeutische Verfahren im wissenschaftlichen Vergleich. *Prax Psychother Psychosom* 33:153-167
- Grawe K (1988b) Zurück zur psychotherapeutischen Einzelfallforschung. *Z Klin Psychol* 17:4-5

- Grünzig H (1983) Themes of anxiety as psychotherapeutic process variables. In: Minsel W, Herff W (Eds) *Methodology in Psychotherapy Research*. (1, Bd Peter Lang, Frankfurt, S 135-142
- Grünzig H, Kächele H (1978) Zur Differenzierung psychoanalytischer Angstkonzepte. Ein empirischer Beitrag zur automatischen Klassifikation klinischen Materials. *Z. Klin. Psychol.* 7:1 - 17
- Grünzig HJ, Kächele H (1976) Towards an automated classification of clinical material. Report, Abteilung Psychotherapie, Universität Ulm, 10/76
- Grünzig HJ, Kächele H, Thomä H (1978) Zur klinisch formalisierten Beurteilung von Angst, Übertragung und Arbeitsbeziehung. *Med Psychol* 4:138 - 152
- Hoffman I, Gill MM (1988) A scheme for coding the patient's experience of the relationship with the therapist (PERT): Some applications, extensions, and comparisons. In: Dahl H, Kächele H, Thomä H (Eds) *Psychoanalytic Process Research Strategies*. (Breuninger Forschungsmonographien, Bd 0) Springer, Berlin Heidelberg New York London Paris Tokyo, S 67-98
- Hohage R, Kübler JC (1988) The emotional insight rating scale. In: Dahl H, Kächele H, Thomä H (Eds) *Psychoanalytic process research strategies*. Springer, Berlin, Heidelberg, New York London Paris Tokyo, S 243-255
- Hölzer M, Kächele H, Mergenthaler E, Luborsky L (1991.) Vocabulary measures for the evaluation of therapy outcome: studying the transcripts from the Penn Psychotherapy Project (PPP). *Psychotherapy Research* submitted.:
- Horowitz L (1977) Two classes of concomitant change in psychotherapy. In: Freedman NG S (Eds) *Communicative structures and psychic structures*. Plenum, New York, S 419-440
- Jones EE, Windholz M (1990) The psychoanalytic case study: Toward a method for systematic inquiry. *J Am Psychoanal Ass* 38:985-1016
- Jüttemann G (Hrsg) (1990) *Komparative Kasuistik*. Asanger Verlag, Heidelberg
- Kächele H (1976) *Maschinelle Inhaltsanalyse in der psychoanalytischen Prozessforschung*. PSZ-Verlag, Ulm
- Kächele H (1981b) Zur Bedeutung der Krankengeschichte in der klinisch-psychoanalytischen Forschung. *Jahrb Psychoanal* 12:118-178
- Kächele H (1983) Verbal activity level of therapists in initial interviews and long-term psychoanalysis. In: Minsel WH W (Eds) *Methodology in psychotherapy research*. Lang, Frankfurt, S 125-129
- Kächele H (1988b) Clinical and scientific aspects of the Ulm process model of psychoanalysis. *Int J Psychoanal* 69:65-73
- Kächele H (1990) A computer-based assessment of longterm transference trends. In: (Eds) 21st Annual Meeting der Society for Psychotherapy Research, Wintergreen, Virginia, USA,
- Kächele H, Mergenthaler E (1983) Computer-aided analysis of psychotherapeutic discourse. In: Minsel R, Herff W (Eds) *Methodology in Psychotherapy Research*. Proceedings of the 1st European Conference on Psychotherapy Research, Vol. 1. Peter Lang, Frankfurt, S 116-161
- Kächele H, Schmieder B (1991) Fokus und Übertragung. *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
- Krause R, Lütolf P (1988) Facial indicators of transference processes within psychoanalytic treatment. In: Dahl H, Kächele H, Thomä H (Eds) *Psychoanalytic process research strategies*. Springer, Berlin Heidelberg New York London Paris Tokyo, S 241-256
- Kubie LS (1952) Problems and techniques of psychoanalytic validation and progress. In: Pumpian-Mindlin E (Eds) *Psychoanalysis as science*. The Hixon lectures on the scientific status of psychoanalysis. Basic Books, New York, S 46-124
- Labov W, Fanshel D (1977) *Therapeutic Discourse*. Academic Press, New York
- Leber M, Oevermann U (1991) Möglichkeiten der Therapieverlaufs-Analyse in der objektiven Hermeneutik - Eine exemplarische Analyse der ersten Minuten einer Fokalthherapie aus der Ulmer Textbank ("Der Student"). In: Kächele H, Grawe K (Hrsg) 7.PEP Treffen, Krattigwil /Bern, Ulmer Textbank

- 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, S 291-306
- Luborsky L, Crits-Christoph P (1990) *Understanding transference*. 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*. Wiley, New York, S 408-438
- Mergenthaler E (1985) *Textbank Systems. Computer science applied in the field of psychoanalysis*. Springer, Berlin Heidelberg New York
- Mergenthaler E (1990) Parts of speech: a measure of therapeutic alliance. In: (Eds) 21st Annual Meeting SPR, Wintergreen, Virginia, USA, S
- Mergenthaler E, H K (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, S 195-212
- Neudert L, Grünzig HJ, Thomä H (1987a) Change in self-esteem during psychoanalysis: a single case study. In: Cheshire NM, Thomä H (Eds) *Self, symptoms and psychotherapy*. Wiley & Sons, New York Chichester, S 243-265
- 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, S
- Neudert L, Kächele H, Thomä H (1990) Der empirische Vergleich konkurrierender psychoanalytischer Behandlungstheorien. *PPmP-Diskjournal* 1:
- Parra dIG, Mergenthaler E, Kächele H (1988) Analisis computerizado de la conducta verbal de pacientes y terapeutas en la primera entrevista diagnostica. *Acta Psiquiatrica y Psicologica de America Latina*. 34:309-320
- Schaumburg C, Kächele H, Thomä H (1973) Untersuchungen über Interaktionsvorgänge im psychoanalytischen Prozess anhand von Personalpronomina. (Teil 3). *Abteilung Psychotherapie, Universität Ulm*, 10/73
- 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. In: (Eds) *European Congress of Psychosomatic Research in, Noorwijkerhout, Holland*,
- Schröter K (1979) Einige formale Aspekte des psychoanalytischen Dialogs. In: Flader D, Wodak-Leodolter R (Hrsg) *Therapeutische Kommunikation. Ansätze zur Erforschung der Sprache im psychoanalytischen Prozeß*. Scriptor, Königstein/Ts, S 179-185
- Strupp HH (1980a) Success and failure in time-limited psychotherapy: a systematic comparison of two cases (Comparison I). *Arch Gen Psychiatry* 37:595-603
- Strupp HH (1980b) Success and failure in time-limited psychotherapy: a systematic comparison of two cases Comparison II). *Arch Gen Psychiatry* 37:708-716
- Strupp HH (1980d) Success and failure in time-limited psychotherapy: further evidence (Comparison IV). *Arch Gen Psychiatry* 37:947-954
- Thomä H, Kächele H (1987) *Psychoanalytic Practice. Vol 1 Principles*. Springer, Berlin, Heidelberg, New York, London, Paris, Tokyo
- Thomä H, Kächele H, Schaumburg C (1973) *Psychoanalytische Verlaufsforschung, Teil B: Modell zur klinisch-empirischen Verlaufsbeschreibung*. Abteilung Psychotherapie, Universität Ulm, 10/73
- Wallerstein RS, Sampson H (1971) Issues in research in the psychoanalytic process. *Int J Psychoanal* 52:11-50
- Weiss J, Sampson H, Group at MZPR (1986) *The psychoanalytic process: theory, clinical observation, and empirical research*. Guilford Press, New York
- 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, S 130-135

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Wittgenstein L (1960) Philosophische Untersuchungen, Schrift 1. Suhrkamp, Frankfurt