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The German specimen case, Amalia X: Empirical studies

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The authors provide a perspective on how psychoanalytic process research can be implemented. This is based on a process research model described elsewhere and summarizes the kinds of studies that can be situated on the four levels of the model. The authors summarize multiple empirical studies that were performed in a completely tape-recorded psychoanalytic therapy and have been published. These studies demonstrate the many modalities empirical process research has available to objectively study psychoanalytic process phenomena and their implication for outcome.

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Historically in psychoanalysis, oral tradition—documented mainly by case vignettes —has constituted the principal means of reporting the insights developed from the therapeutic situation as a field for discovery-oriented research. When the term 'the specimen hour' (Dahl et al., 1988) was used to describe the transcript of one hour of a psychoanalytic treatment, this implied that there are not only specimen dreams in psychoanalysis, as Freud put it. Following Wallerstein and Sampson's (1971) recommendation to provide intensive single-case studies to enhance our field, we have undertaken a sustained, multi-level, collaborative examination of what may be described as a 'specimen case'. In this report, we present a summary of the studies made of the psychoanalytic treatment of our specimen case named 'Amalia X'.[2] Clinical vignettes and a psychodynamic summary of the case have been provided in the second volume of Thomä and Kächele's textbook of psychoanalytic therapy (1992).

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[2]To avoid any association with Erikson's (1954) 'dream specimen of psychoanalysis', we emphasize from the outset that the examination of Amalia's treatment should be considered as our own specimen case.

Amalia X (born 1939) was in psychoanalytic treatment (517 sessions) during the early seventies with good results. Some years later she returned to her former therapist for a short period of analytic therapy because of problems with her lover, many years her junior. Twenty-five years later she consulted a colleague of mine as her final separation from this partner had caused unbearable difficulties and she again asked for circumscribed help.

Amalia X came to psychoanalysis because the severe restrictions she felt on her self-esteem had made her vulnerable to depression in the past few years. Her entire life history since puberty, and her social role as a woman, had suffered from the severe strain resulting from her hirsutism. Although it had been possible for her to hide her stigma—the virile growth of hair all over her body—from others, the cosmetic aids she used had not raised her self-esteem or eliminated her extreme social insecurity. Her feeling of being stigmatized and her neurotic symptoms, which had already been manifest before puberty, strengthened each other in a vicious circle; scruples arising from a compulsion neurosis and various symptoms of anxiety neurosis impeded her personal relationships and, most importantly, kept the patient from forming closer heterosexual friendships.

This woman, who was hard-working in her career, cultivated, single, and quite feminine despite her stigma, impressed the analyst positively. He was relatively sure and confident that it would be possible to change the significance she attributed to her stigma. In general terms, he proceeded from the position that our body is not our only destiny and that the attitude that significant others and we ourselves have to our bodies can also be decisive. Freud's (1912, p. 189) paraphrase of Napoleon's expression to the effect that our anatomy is our destiny must be modified as a consequence of psychoanalytic insights into the psychogenesis of sexual identity. Sexual role and core identity originate under the influence of psychosocial factors on the basis of one's somatic sex.

His previous experience warranted the following initial assumptions. A virile stigma strengthens penis-envy and reactivates oedipal conflicts. If the patient's wish to be a man had materialized, her hermaphroditic body image would have become free of conflict. The question 'Am I a man or a woman?' would then have been answered; her insecurity regarding her identity, which was continuously reinforced by her stigma, would have been eliminated; and self-image and physical reality would then have been in agreement. It was impossible for her to maintain her unconscious fantasy that she was a man, however, in view of her female genital. A virile stigma does not make a man of a woman. Regressive solutions, such as reaching an inner security despite her masculine stigma by identifying herself with her mother, revitalized old mother–daughter conflicts and led to a variety of defensive processes. All of her affective and cognitive processes were marked by ambivalence, so that she had difficulty, for example, deciding between different colours when shopping because she linked them with the qualities of masculine or feminine (Thomä and Kächele, 1992, p. 79).

The most recent report on the analytic technique in this case was presented at the New Orleans IPA conference in 2004 (Thomä and Kächele, in press), where the case was discussed by a good number of analysts from diverse camps (Wilson, 2004).

Our summary of these studies might as well have as its subtitle the question 'How many aspects has an elephant when seven blind investigators are allowed to touch only parts of it?'[3] Given the prevailing paucity of systematic descriptive data on psychoanalytic cases, we have to assume that all investigators at this stage are pretty blind. The various studies performed on the specimen case of Amalia X refer to parts and aspects only, and must eventually be integrated so that the relationships among them, and thus the case as a whole, may be appreciated. So far, however, we are all blind and therefore cannot claim to have seen the elephant in its entirety, from tail to trunk; but, for an analysis of the elephant's lifestyle, investigating the trunk is considerably more important than investigating the tail. The same applies to the empirical studies reviewed in this paper. The more one gets lost in the less significant linguistic details of dialogue, the more likely one is to lose sight of the important clinical questions; yet it is also true that an analyst can become aware of blind spots by using micro-analytical research methods. Whether general conclusions can be drawn from this remains an open question. Our principal conviction ultimately leading to the start of this enterprise was the credo that psychoanalysis—like any other scientific field—requires careful descriptive work. This necessary step in research was dubbed the 'botanical phase in psychotherapy research' (Grawe, 1988).

Luborsky and Spence's statement concerning the requirements for specimen cases spells out quite succinctly what is at stake here: 'Ideally, two conditions should be met: The case should be clearly defined as analytic, and the data should be recorded, transcribed and indexed so as to maximize accessibility and visibility' (1971, p. 426). The first condition has been met by virtue of the fact that a sufficient number of colleagues considered this case to be truly 'analytic'. The treating analyst had a high reputation in the professional community, although all analysts have to demonstrate their qualification in each and every case. Based on the results of studies, it can also be said in retrospect that the treating analyst conformed to the fundamental psychoanalytic rules. Conforming to a specific method should not be confused with abiding by a law. Rather, we share the view of Gabbard and Westen (2003) that the process should be conducted according to the principle of trial and error. Our stand on this issue remains exclusively within the professional community.

The second condition formulated by Luborsky and Spence (1971) is fulfilled by the utilization in our studies of the Ulm Textbank (Mergenthaler and Kächele, 1988), in which audio recordings of 517 sessions of this psychoanalytic case are stored and kept available for investigation by members of the scientific community. Through many years of work, approximately half the sessions of this case have been transcribed according to the rules of the Ulm Textbank (Mergenthaler and Stinson, 1992). Most of our investigations would not have been possible without these audio recordings and verbatim transcripts of dialogue.

[3]This is an allusion to a sentence by J. H. Beadle (1878): 'My friend … has seen the elephant in his entirety from trunk to tail.'

The problems associated with the audio recording of analytic sessions have been extensively dealt with by Kächele et al. (1988), and also more recently in the clinical presentation of a session of Amalia's analysis (Thomä and Kächele, in press). Without dwelling on these problems again, we would like to emphasize the value that audio recordings create for the realization of empirical analytic studies of treatment-reports and interdisciplinary research. The accessibility of psychoanalytic dialogue, and the investigation of it by psychoanalytic researchers in collaboration with psychologists, linguists or other independent scholars, strengthens the interdisciplinary foundation of psychoanalysis. In the past, too often scholars wrote about psychoanalysis without having access to its primary data—a situation that may be compared to discussing the philosophical ideas of Socrates without actually having read the Platonic dialogues.

The empirical approach: A multi-level observational strategy

Our long-term aim has been to establish ways of systematically describing the various aspects and dimensions of the psychoanalytic processes, and to use the descriptive data obtained in this way to examine process hypotheses. This entailed the generation of general process hypotheses as well as the specification of single-case process assumptions. Specifying how a psychoanalytic process should unfold must go beyond general clinical ideas by considering the kind of material brought forth by each patient and the strategic interventions most appropriate to achieving change in the dimensions of theoretical relevance specified for each particular case. Although our approach excluded the use of non-clinical measures to limit the intrusions on the clinical process, independent psychometric pre-post outcome data were used to assess the effectiveness of the psychoanalytic treatment, and have been published (Thomä and Kächele 1992, pp. 458ff.).

Our methodological approach distinguishes four levels of case research, each working on different material studied at different levels of conceptualization (Kächele and Thomä, 1993). These are clinical case study (level I); systematic clinical description (level II); guided clinical judgement procedures (level III); linguistic and computer-assisted text analysis (level IV). Following Sargent's (1961) recommendations, we chose this multi-level strategy based on our understanding that the gap between clinical understanding and objectification cannot be meaningfully bridged by using only one approach.

Level I: Clinical case studies

The clinical case study based on the good memory, or even accurate process notes, of an analyst fulfils an important communicative function within the profession. As demonstrated by Dewald (1978), there is a general acceptance of this form of case study as a tool for training. Astonishingly enough, these case studies have scarcely ever been the focus of formal scientific study. Yet exactly that focus is necessary to demonstrate their scientific value and thus their usefulness to our scientific community (Michels, 2000). At present, agreement is growing faster than ever that there is

a critical need for carefully prepared case studies. Exactly how this may be achieved is still a key question in ongoing discussions.

As a contribution to these discussions, the second volume of the Ulm textbook (Thomä and Kächele, 1992) contains examples of this traditional form of using clinical material with case studies of Amalia X at this level focused on identification with the analyst's function (ch. 2, section 4.2); free association (ch. 7, section 2); anonymity and naturalness (ch. 7, section 7); examples of audio recordings (ch. 7, section 8.1); and changes (ch. 9, section 11.2).

Level II: Systematic clinical descriptions[4]

The level of systematic clinical description by multiple structured methods is clearly distinct from that of clinical case study, but still remains close to clinical reasoning. In the case of Amalia X, these methods have been based on tape recordings of the whole treatment, supplemented by verbatim transcripts of one-fifth of the sessions (e.g. 1–5, 26–30, 51–5, …, 501–5). Verbatim records of the sessions may be used by the analyst himself when preparing a clinical study or even by a third person. This new clinical-descriptive step allows for an evaluation under some constraints, as not all sessions will be available. Work with a systematic time sample assumes that systematic data analysis within fixed time intervals can capture the decisive change processes. The analyst and others can equally successfully perform the procedure using the same material.

We used the following points of description for each 5-session block spread over the available treatment span from hour 1 to 505 with regular intervals of 20 sessions:

1. the external situation of the patient and treatment
2. the transference/countertransference situation
3. relations of the patient to important 'objects' outside the treatment, present and past
4. the working alliance
5. important episodes within the 5-session block.

This systematic description was initially prepared by two medical students and then revised and refined by two experienced psychoanalysts. The material available after such an effort can serve many purposes besides being a valuable achievement in itself (see Thomä and Kächele, in preparation, ch. 3). It allows for an easy orientation to the whole case while being more detailed and more systematic than the usual novella-like case history. The systematic descriptive record marks out the orderly progress of things. One can rearrange the qualitative data (e.g. aggregating all transference descriptions one after the other) and thereby gain a good impression of the development of major issues, as shown in Table 1.

[4]The material presented in the following sections is reported in great detail in the third volume of the Ulm textbook *Psychoanalytic practice: Research*, which is available via our departmental website at http://sip.medizin.uni-ulm.de/abteilung/buecher.detail.html#1.

Table 1 — Systematic description of Amalia X's focal transference issues

001–005	The analysis as confession
026–030	The analysis as an examination
051–055	The bad, cold mother
076–080	Submission and secret defiance
101–105	Searching for her own rules
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 I'll reject you
351–355	The powerless love to the mighty father, and jealousy
376–380	Separation for not being deserted by the father
401–405	Discovery of her capacity to criticize
426–430	I'm only second to my mother, first-borns 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 goodbye
513–517	Departure-symphony

The Topic-Index method, based on the early work of Gill's research team (Simon et al., 1968), was used to study the distribution of major themes throughout the treatment. The presence of each topic was assessed in a binary (yes/no) format, and the resulting graphical matrix provided a good overview of when a certain topic was covered by the patient and/or analyst during the treatment (Thomä et al., 1982).

Level III: Guided clinical judgement procedures

This methodological level consists of qualitative, clinically informed judgements made by two or more observers in a systematic fashion. This approach keeps the nature of the data on a qualitative level, yet allows for the handling of such data with both parametric and non-parametric statistics. To perform this transformation, a simple scale is used to represent the dimensional aspect of any concept under study. This scale, being a more elaborate version of the binary 'yes/no' distinction, marks the beginning of any measurement procedure. Luborsky (1984) aptly called these 'guided clinical judgement procedures' that utilize the skills with which a clinician records complex data. At this level of our research approach, various studies were performed on our specimen case as follows:

(a) change of emotional insight (Hohage and Kübler, 1988)
(b) change of self-esteem (Neudert et al., 1987)

(c) types of subjective suffering (Neudert and Hohage, 1988)
(d) change in dreams (Leuzinger-Bohleber and Kächele, 1988)
(e) focal model of process assessed by the Core Conflictual Relationship Theme (CCRT) method (Albani et al., 2002)
(f) breaks between sessions and the analytic process (Jimenez et al., in press)
(g) the 'unconscious plan' in terms of Control-Mastery theory (Albani et al., 2000)
(h) psychoanalytic technique by assessed by the Psychotherapy Process Q-Sort method (Albani et al., 2002).

We now present a summary of each of these approaches and what we learned from them performing our investigations.

Change of emotional insight

The concept of insight is one of the key concepts in psychoanalytic treatment, although substantial measures of change in emotional insight have been rare. Hohage and Kübler (1988) constructed a rating scale that differentiates between a patient's cognitive access (C-score) and emotional access (E-score) to her material. Added to this is a combined score of the specific construct called 'emotional insight' which is fully described in Hohage's manual (1986).

This approach consists not only of a quantitative assessment of insight itself but also of cognitive involvement. Of course, therapeutic change is not effected by different insight scores alone. It may nonetheless indicate an important step, if the patient should begin to deal with himself and not solely with other persons. In such cases, the extent of the patient's increased experiencing of himself would be a relevant result. The patient Amalia X, however, was psychologically minded and often dealt with her own thoughts and feelings (C-score unchanged). Even so, changes in her emotional experiencing (E-score) were of importance. When placed under the impact of psychic conflict she appeared to strengthen her emotional access to her material, which indicates an important therapeutic change. For example, when under the pressure of imminent termination, she was able to remain emotionally involved. This supplemented the finding of generally increased insight scores.

One must, however, take into account that this approach reflects only certain aspects of insight. By focusing on the patient's access to experiencing, the concept of insight as an increase in self-knowledge or as an awareness of unconscious motives is neglected. We cannot rule out that, although the patient reports in an insightful way, it could be about insignificant matters or maybe that wrong conclusions were drawn. The correctness of her conclusions or the significance of her thoughts can be decided only by clinical judgement, and this judgement may in itself be right or wrong. Furthermore, a decrease in emotional insight as well as an increase in resistance, when observed in the course of psychoanalytic treatment, cannot simply be regarded as a step backwards. The psychoanalytic process has more than one dimension, and becoming more insightful is only one among many aims of the process. In the service of therapeutic progress, it is typically necessary that patients activate conflicts and develop resistances. Only if it is impossible to overcome such resistances and to work through conflicts will the therapeutic effect be doubted.

The emotional insight scale may assist in studying such developments and thereby contribute to the understanding of the therapeutic process.

Change of self-esteem

Ever since Kohut rediscovered the positive aspects of narcissism, the concept of self-esteem could have been used as a unifying concept for a variety of research lines, both within and outside psychoanalysis. In the personality research of recent years, self-esteem and a number of related concepts have played an increasingly important part, as Cheshire and Thomä (1987) have shown. On the other hand, it has so far largely been neglected as a clinical-psychotherapeutic concept in the framework of empirical psychotherapy research. Yet it is precisely this concept that can, in our opinion, most readily create meaningful links between process and outcome research because it is a variable equally relevant to both realms. If the process of therapy is understood as a gradual acquisition of certain attitudes and abilities, and, if outcome is assessed in terms of the possession and availability of these attitudes and abilities, then researchers should gather information about those features of the patient that reflect this process of acquisition and the stability of its result. Hence, the importance of longitudinal and follow-up studies of these features.

Neudert et al. (1987) developed a manual to assess diverse aspects of the concept. The two central hypotheses about changes in overall self-esteem were confirmed: positive self-esteem increased significantly during the course of treatment, although the trend did not set in right at the start of treatment but only after wide fluctuations over the first 100 sessions; also, negative self-esteem showed a significant and continuous decrease from the beginning of treatment. However, hypotheses regarding changes in acceptance by others were not confirmed, as there were no systematic trends. Nor were the hypotheses confirmed that had to do with the relative incidence of different categories of material before and after focal working through. On the other hand, there were indeed two confirmatory results for hypotheses about differences between correlations among categories: self-esteem in connection with imagined heterosexuality improved significantly, as expected, and negative self-esteem in connection with autoeroticism decreased significantly.

Types of subjective suffering

Another key concept of psychoanalysis has been subjective suffering, that is, suffering that is not captured by standard psychiatric rating scales but rather reflects the patient's subjectivity. Neudert and Hohage (1988) developed a manual-guided procedure that delineates forms of suffering in the patient's recorded communications. In their study on patient Amalia, they were interested in the following issues:

1. What was the total amount of subjective suffering during the course of treatment?
2. Which part of the patient's suffering during psychoanalysis was related to her psychoanalyst, which part had other sources, and what were those other sources?
3. How did the patient's suffering in relation to the psychoanalyst change over the course of treatment? Were there crises in the course of treatment and, if so, what caused them?

4. How much of the suffering related to the analyst was in fact due to his abstinence?
5. What did the therapist do when he became the object of the patient's suffering?

The results indicated that the amount of total suffering throughout the treatment could be described as a monotonic and statistically significant negative trend, and that 'helplessness in dealing with suffering' decreased significantly over the course of treatment. From the data, it was clear that suffering related to the analyst was low in comparison to the total amount of subjective suffering. However, the suffering experienced in relationship to the analyst increased slowly to a peak towards the middle of the treatment (in Block 5, sessions 101–5). Here, the suffering related to the environment evidently replaced the patient's suffering in regard to herself. Until that point, she had primarily been occupied with her own insufficiencies, insecurities and inhibitions. Having overcome this, the data show that she began to tackle her environment, even though doing so was painful for her, and the psychoanalyst became the primary *safe* object for her painful conflicts.

Neudert and Hohage conclude:

> One can state that during this treatment period the therapist absolutely avoided defending himself. If he had had a defensive attitude he might have glossed over the patient's criticism and suffering or have doubted their justification. And although he was not abstinent in the sense of formally complying with a rule, he handled the principle of abstinence in a functional way, that is, against the background of a case-specific psychodynamic understanding: To be abstinent in regard to *this* patient, during *this* phase of the psychoanalytic process means that the psychoanalyst had to avoid—even indirectly through an interpretation—personally defending himself. (1988, p. 240)

Of course, the way the patient experienced the analyst's behaviour is of crucial importance for the development of the therapeutic process. To this point, Neudert and Hohage ask, 'How then did she respond to this therapist's particular form of abstinence, that is, to his abstaining from being defensive?' (p. 240). Fortunately, we can get a clear answer to this question by examining the last hour of this block, when the patient begins to talk about how she had recently perceived the psychoanalyst. She had repeatedly complained about the bright daylight in the new office. But suddenly, since the previous session, curtains had been put up. She realizes that the psychoanalyst must have known that this had been planned but hadn't mentioned it when she had complained about the lack of curtains. She then becomes aware that his not telling her was just what made it possible for her to clearly experience what it feels like to be subjected to someone looking at her. And she gets some insight into the benefits of the psychoanalyst having withheld this information. She feels at ease and relieved by his calm reaction to her attacks. She describes the 'impersonal' in the therapeutic relationship as a welcome protection. And this sense of 'impersonality' becomes so strong that she suddenly can no longer remember exactly what her therapist looks like.

> Finally, from a psychoanalytic point of view, one can assume that the patient perceived her psychoanalyst's calm reaction as a relief not only in regard to her aggressive attacks but also in regard to her wishes to be close, even if she still experienced these wishes predominantly as anxieties. The analyst's abstinence did not manifest itself as a rigid clinging to a rule,

> but was based on a correct understanding of her conflicts. Obviously, he passed her test, as predicted by Weiss and Sampson's control-mastery theory, by reacting in a calm way to both her criticism of him and her fear of being too close. The patient reacted according to the theory's prediction: She talked about her feelings of relief and relaxation. (1988, pp. 240–1)

Change in dreams

Even though many discussions about dreams in clinical practice focus on a single dream, it is evident that the reporting of dreams during a psychoanalytic treatment is one of the most regular phenomena. Some patients report dreams more and others less, and analysts differ as to the extent they use the dreams offered by the patient. In a compromise, both patient and analyst establish a non-conscious, non-intentional agreement on the relevance of dreams for the purpose of the treatment.

The Ulm dream study group investigated cognitive changes based on dream reports in five psychoanalytic treatment cases (Leuzinger-Bohleber and Kächele, 1988; Leuzinger-Bohleber, 1989). Dreams from the beginning phase (sessions 1–100) and the terminal phase (the last 100 sessions) were compared to establish the cognitive functioning of each phase using a content-analytic instrument. The development of these cognitive functions was later studied throughout the treatment using the total dream material of the transcribed sessions of Amalia X (Kächele et al., 1999a).

To provide an idea of the findings, we present results relating to three questions. First, what were the dreamer's relations to other people? It was obvious that Amalia X did not change with respect to her social relations in her dreams, which is remarkable when considering that she suffered from erythrophobic symptoms at the beginning of the treatment. The second question pertains to the global emotional atmosphere in the dreams. A list of adjective scales was used and, by means of factor-analysis, we identified a steady trend from negative dream emotions at the beginning to positive dreaming colouration towards the end of the analysis. The third issue focused on the problem-solving activity of the dreamer and we observed a steady systematic change escalating as the analysis proceeds. Another issue in this study was whether the changes observed could be modelled as linear trends, and in the results we found both stationary processes with variations in intensity (as in aggressive or anxious feelings) and changes that increased or decreased in a linear fashion over time.

Focal model of process by CCRT

At present, the number of coherent models of the psychoanalytic process remains small. In the Ulm Process Model (Thomä and Kächele, 1987; Kächele, 1988), psychoanalytic therapy is understood as a continuing, temporally unlimited focal therapy with a changing, interactively developing focus. The sequence of foci is regarded as a result of an unconscious exchange between the needs of the patient and the resources of the analyst.

From the very start, it seemed plausible that in all analyses certain thematic focal points arise and are subject to change in the course of further analytic work. We are

strongly convinced that arguments against the Ulm Process Model can be advanced either by assuming a theory of *Universalpsychopathogenese* (Thomä, 2005) or by accepting the idea of non-tendentious and aimless analyses ('just analysing'). If one closely examines the matter, even school-specific concepts of universal psychopathogenesis create focal points.

The CCRT method devised by Luborsky (Luborsky and Crits-Christoph, 1998) offers a way of making such focal and core conflicts operational. This method points in a different direction from the clinical determination of focus, but a comparison proved to be impossible in this case because the treating analyst did not define (before or after the therapy) what conflict was occurring, and was to be the centre of attention, in what session or phase of sessions.

The basic assumption of the CCRT method is that patients' accounts about interpersonal experiences contain typical internalized subject–object-relationship patterns. Stories told in therapy reflect experiences, and for that reason the CCRT method analyses narratives of the patient's experiences in relationships ('relationship episodes'). The first step is to identify relationship episodes, followed by the determination of three types of components within the relationship episode: the needs, intentions or wishes concerning the person's self (WS-component) or an 'object' (WO-component); assumed reactions of the object (RO-component); and subsequent assumed reactions of the subject (RS-component), with reactions categorized as positive or negative.

The study by Albani et al. (2003) aimed to investigate how effective the CCRT method would be in depicting the therapeutic course of the psychoanalytic treatment of Amalia X according to the Ulm Process Model. The data we evaluated were drawn from the first and last therapy phases (sessions 1–30 and 510–17 respectively), and, beginning with the 50th session, blocks of 5 sessions were analysed at 50-session intervals, with a final sample of 11 blocks and 92 sessions.

The pattern in Table 2 was found by counting the most frequent categories across all phases of therapy.

Table 2 — CCRT categories

Wish towards the object	Others should be attentive to me
Wish towards the self	I want to be self-determined
Assumed response of the object	Others are unreliable
Assumed response of the self	I am dissatisfied, scared

This pattern formed a central focus, and this focus was worked through in many therapy phases detailed in the study. Amalia X's wish for change was expressed in her desire for autonomy, overcoming her experience of herself as dependent and weak, as unable to set limits and as dissatisfied. A basic theme manifested itself in each of the absolute highest frequency categories ('nuclear conflicts'), and each therapy phase showed typical clusters of CCRT categories which characterize thematic foci in the sense of French's (1952) 'focal conflicts' as operationalized by the CCRT method.

Both the strengths and limits of the CCRT method stem from its confinement to reports of relationship experiences by the patient herself. In other words, investigations remain limited to relationship experiences that the patient has perceived and verbalized. The method provides no way of including unconscious material other than the repetitive schemas that patients unconsciously follow in describing the course of a relationship, and of assessing defence mechanisms. This study showed that the CCRT method captures clinically relevant interpersonal aspects of the psychoanalytic process from the patient's point of view, supporting the Ulm Process Model, although the analyst's contribution was reflected only in the patient's narratives regarding her relationship to the therapist.

Breaks between sessions and the analytic process

Jimenez et al. (2006) examined the evolution of Amalia X's reactions to breaks during the course of the analysis, on the hypothesis that this could serve as an indicator of change achieved through the therapeutic process. The study was based on a sample of 212 transcribed sessions evenly distributed over the treatment, and comprised three stages:

(1) A formal definition of a break in the treatment was determined by means of a histogram based on the attendance card.
(2) Using the Ulm Anxiety Topic Dictionary, a computer-assisted method of verbal content analysis, an attempt was made to characterize the sessions correlated in time with the various types of breaks. This instrument defined the construct 'separation session', which tended to appear immediately before the more prolonged breaks but was also found sporadically in relation to shorter breaks.
(3) A sample of separation sessions was investigated for transference responses by means of the CCRT. The components of the CCRT evolved in accordance with expectations and the results were discussed in relation to the methodology used and the psychoanalytic theory of therapy.

In patients who are extremely dependent, a high-frequency setting leads to a separation between anxiety and depressive reactions. The affects caused by intervals depend on the contribution of the analyst. The stereotype interpretation that all patients' conditions deteriorate over weekends or public holidays or during holidays is, in a way, a self-fulfilling prophecy. Forced transfer assumptions that render the patient a helpless baby, suckling his mother's breast, promote feelings of passivity and total helplessness. For therapeutic reasons it is vital that old anxieties and the experiencing of these anxieties should be re-lived within given intervals. It is, however, essential that the patient's despair must not be stimulated by interpretations that cause a world-shattering withdrawal experience. The examples examined by this study support the assumption that the correlation between breaks and depression is an iatrogenic phenomenon that depends largely on the analyst's treatment technique.

The unconscious plan in terms of Control-Mastery theory

Albani et al. (2000) tested the applicability of Weiss et al.'s (1986) Control-Mastery Theory to the case of Amalia X. The results of this first German-language reliability

study with the Plan Formulation Method demonstrated that it can be used reliably in research outside the USA.

Psychoanalytic technique assessed by the Psychotherapy Process Q-Sort

Albani et al. (2002) also used Jones's (2000) Psychotherapy Process Q-Sort in the first application of the German translation made by the authors. The method proved to be a reliable and relevant instrument for describing patterns of interactions in the case of Amalia X.

Comparison of sessions from the beginning and termination phases of a psychoanalytic therapy demonstrated clinically relevant differences between the two phases of treatment. In the initial phase, the therapeutic interaction was characterized by the analyst's intensive and supportive treatment of the patient. A reciprocal influence existed between the patient's self-accusatory patterns, her embarrassment and feelings of low self-esteem and the analyst's helpful interventions. The therapeutic technique consisted of clarifications as well as confrontations and interpretations of current in-session behaviour. This helped the patient become more forthright in exploring her thoughts and feelings. The description of the initial phase with this method pointed to the establishment of a good helping alliance early in treatment. In the end phase of the analysis, the patient had become capable of expressing aggressive feelings. Feelings of guilt had dramatically subsided, and the patient was able to talk well about difficult love relations. The topic of separation was openly discussed in the analysis, and the patient identified her ability to work with her dreams as expressing her internalization of the analytic function.

Level IV: Linguistic and computer-assisted text analysis

Systematic investigations on the special conversational nature of psychoanalytic technique have been made using materials from the Ulm specimen case. Koerfer and Neumann (1982) focused on the patient's sometimes painful transition from everyday discourse to psychoanalytic discourse. These and other findings from that field of discourse analysis support the topical formulation of our 'philosophy' of psychoanalytic therapy: provide as much everyday talk as necessary to meet the patient's safety needs, and provide as much psychoanalytic discourse as feasible to stimulate the exploration of unconscious meanings in intrapsychic and interpersonal dimensions (Thomä and Kächele, 1992, ch. 7, section 1).

Following Schafer's (1976) ideas of action language, Beerman (1983) studied the use of various syntactical variations in active and passive voice expressed by Amalia X over the course of treatment. Kächele (1983) investigated the analyst's conversational strategies, focusing first on the analyst's verbal involvement, showing that in a productively evolving analytic process (as happened in the case Amalia X) there was no correlation between patient's and analyst's amount of verbal participation. The analyst's verbal activity steadily declined over the course of the analysis, reflecting the analyst's recognition that this patient would be increasingly able to develop her own verbal space.

A later study by Kächele et al. (1999b) distinguished between formal and substantial aspects of the analyst's vocabulary (the term 'vocabulary' referring to

the number of different words or 'types' that are used by a speaker). Measures of types are interesting, since words stand for concepts and therapy may be viewed essentially as an exchange of concepts involving the assimilation of new material and accommodation of previous schema. Thus, the analyst's vocabulary at the beginning of the analysis likely will both shape and reflect the patient's experiential world, and during the analysis its evolution might run parallel to, or at least partly reflect, the conceptual and emotional learning processes that take place.

To explore this, we examined the analyst's characteristic vocabulary in the opening phase of Amalia X's analysis with a specific focus on the part of his vocabulary that he actively introduced in the dialogues (as distinct from following the patient's lead). Based on its frequency of occurrence of types, we found that the analyst in the first 18 sessions characteristically emphasized four classes of nouns in his interventions: *technical nouns* that were part of his task to invite the patient's participation in the analysis; *emotional nouns* that were part of the analyst's technique to intensify emotions; *sexual bodily linked nouns* that referred to the patient's embarrassed sexual self concept; and a few *topical nouns* that reflected aspects of the patient's life situation reported in the first sessions.

To deepen our understanding, we subjected use of the noun 'dream' to a more thorough examination. At the beginning of an analysis, the patient learns that the analytic dialogue is unusual insofar as the analyst may use highlighting as a style of intervention. As the word 'dream' was a prominent part of the analyst's characteristic vocabulary, compared to the patient, we concluded that the analyst tried to intensify the patient's curiosity about dreams as a special class of reported material.

Continuing our computer-assisted studies, Hölzer et al. (2006) recently identified a basic interpretive strategy in four psychoanalytic treatment cases, including that of Amalia X, where the analysts focused on emotions. The study reviewed previous works using computer-based vocabulary analysis based on Dahl's (1991) emotion theory, and then proceeded to test a finding from previous investigations of four long-term psychoanalytic treatments in the Ulm Textbank. The study confirmed that in all four treatments, though in different degrees, a systematic change from negative 'ME-emotions' to negative 'IT-emotions' could be demonstrated. This finding underscores the basic Freudian notion that self-referential complaints have to be transformed into object-related activities.

Last but not least, our team, using the Emotion-Abstraction methodology of Mergenthaler's cycle model (1996), also studied the session 152 of the patient Amalie that has been the object of the clinical case presentation (Mergenthaler, 2002). This approach, working on the microscopic level of moment-to-moment interactions, directly allows for a feedback process into the rich clinical discussions that have been the topic of many contributions on this session material.

Concluding comments

In view of the paucity of thorough clinical-empirical studies of psychoanalytic cases (Kächele, 1981), we believe that the work of the Ulm research group represents a major achievement, first by demonstrating *that* it can be done, and then by

showing *how* it can be done, given sufficient dedication and institutional support. Psychoanalytic treatment can be made the focus of objective and methodologically sophisticated research, leading to findings and discoveries that cannot be made by the treating analyst alone. The clinical perspective of the treating analyst is essential but is necessarily limited by his or her role as a participant observer of the analytic process. Supplementing this, formal systematic research opens the way to independent understandings of the mechanisms of change in psychoanalysis.

The studies of our specimen case not only support the notion that this analytic treatment led to considerable change in many aspects of the patient's cognitive and emotional functioning, but also demonstrate the usefulness of micro-analytic research techniques that help to identify and conceptualize change processes. The number of descriptive dimensions that are possible and necessary to describe these changes is not small. However, one conclusion can safely be drawn from the studies of our specimen case, which is that change processes exist and can be demonstrated by research methods that are reliable and valid. Both the process of change in psychoanalysis and in the patient's basic psychological capacities take place all along the way, and it is often but not always the case that they can be described in terms of linear trends along the continuum of the treatment.

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 practice, and those who are connected to our work. Nothing has changed our psychoanalytic thinking and practice more than its public exposure to friendly critics and critical friends. To return to the simile about the elephant and the seven blind persons investigating its various parts, we come to the following conclusion: for the clinician there are both meaningful and less relevant results. We say this in order to encourage other psychoanalysts to open their clinical work to careful scrutiny by the scientific community in the endeavour to improve clinical work. For this purpose, we recommend the training of researchers who are also trained as clinicians, and the training of clinicians who are also trained as researchers, so that they may learn to identify with both the clinical and research tasks. We need analysts and researchers with the ability to support long-term commitment to making slow but cumulative progress. Systematic investigations are dependent on teams supported by institutions, like our department at Ulm, which promote co-operation between analysts in practice and full-time researchers. Implementation of such research will help to move psychoanalysis creatively beyond its contemporary crisis.

Translations of summary

To follow.

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