
Relationship episodes and computer referential activity

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The stories patients tell can be analyzed from different points of view; for example one can examine *what* does the patient tell, or *how* does he tell. The first question concerns the content of the story, or in other words the information the story conveys. The question "how?" deals with the form of representation of this content. If we are focusing on "what", we need to extract the essential of the stories, the structural elements of the texts, which are in some way related to their formal aspect. If we are focusing on "how", we can study formal, or grammatical, or lexical characteristics of the stories which are in some way related to their content.

In the present study an attempt was made to integrate the questions "what?" and "how does the patient tell?". The study emerged at the crossing of tightly connected trends of psychotherapy process research, namely in the hypothesized point where three lines of content analysis of psychotherapeutic transcripts intersect, Luborsky's Core Conflictual Relationship Theme (CCRT) (Luborsky, 1985), Bucci's Referential Activity (RA) (Bucci, 1993), and Mergenthaler's Emotion-Abstraction Patterns (EAP) (Mergenthaler, 1996). These approaches at the first glance may seem incompatible, but all of them share the general principle of isomorphism that suggests clear-cut parallels between emotional states and lexical units in a way that attitudes and internal states of a patient or therapist may be reliably inferred from the manifest representation of a text. The seeming incompatibility is rather determined by the goals the methods were conceived for: the CCRT method reveals patients' stable intrapsychic structures (transference template), while in RA and EAP studies an attempt is made to display and to describe the progression of psychotherapeutic processes. For RA this is the process of change of patient's emotional schema structure. For EAP these are processes leading to emotional insight causing psychotherapeutic change. Thus while the CCRT method is focusing on the content of intrapsychic schemata, the other two depict possible ways of its alteration. Therefore a combined application of all three of them might shed some new light on the psychotherapeutic discourse.

The study presented here discusses the results and prospects of a combined application of the CCRT, RA, and EAP. Combining the latter ones by Bucci & Mergenthaler (Bucci & Mergenthaler, in print) has already proven fruitful and has led to the development of the Cycles Model of psychotherapeutic processes. First steps were also made to comprehend the potentials of combining the CCRT and RA (Bucci, 1995). She compared the CCRT data with the Computer measured Referential Activity (CAR) for the same psychotherapeutic session. She showed that in accordance with her theoretical predictions, Relationship Episodes (RE's) were located in CRA peaks. However there were also instances where RE's were found along with low CRA scores. At the same time CRA peaks which did not contain RE's were found. These preliminary results suggest that more detailed studies of RE's by means of CRA and EAP methods are needed.

As Bucci lines out, the referential process operates in three phases: Subsymbolic activation, Referential Activity, and Reflecting on Narratives. During the referential phase the verbal system is connected to subsymbolic images, events and episodes of the past and present such as dreams or early memories or narratives in general. The scores of RA increase at this stage. As the Cycles Model predicts during this phase the ET and Abstraction scores are expected to be relatively low, while the reflecting phase is marked with the increasing Abstraction, either alone or with a concomitant increase in ET scores. Pilot studies have shown that both, Emotion Tone and Abstraction are not correlated with CRA. Further, as the Multiple Code theory suggests, the general structure of the emotion schema maps readily onto the general structure of the CCRT. The major way in which the emotion schema will be reflected in the structure of the CCRT is in narratives. Therefore narratives given by a patient are likely to be RE's that represent a core conflictual

relationship theme. However, narratives may exist that do not deal with other people but rather focus on the speaker's own bodily symptoms, physical pain, or symptomatic behavior. These narratives are not regarded as RE's and consequently are not captured by the CCRT.

The goals of the present study are: 1. to delineate terminologically the difference between the narratives and the RE's; 2. to study formal characteristics of the narratives and the RE's, as measured with the EAP and CRA methods; 3. to reveal interrelations, if any, between the formal characteristics of the RE's and the relationship patterns they involve.

In linguistics the criteria of the narrative proposed by Labov & Fanshel (1977) are regarded as a classical; the narrative is viewed "as one means of *representing past experience* by a sequence of ordered sentences that present the temporal sequence of those events by that order. ... One of the most common ways of introducing a narrative is to state *the general proposition* the narrative is intended to illustrate. ... *they function as* equivalent to such *single speech acts* as response, putting of a request, challenge, and so forth. Narratives are sometimes introduced by a structural device that we call an *abstract* ... each narrative typically begins with *reference to time, place, persons*, and behavioral characteristics of the situation..." (Labov, Fanshel, 1977, p. ...) In terms of structure the narrative should "normally" include the following parts: an abstract, orientation, complication, evaluation, resolution, and coda. This partition was critically examined by U. Quasthoff (1980); she argues that these parts are related to different aspects of the narrative: the orientation and evaluation have to do with its pragmatic aspect, while the other three parts refer to the semantic aspect of the narrative. She also proposed to differentiate between the narratives in which the speaker and the actant are identical, and those, where the speaker takes the position of an observer and narrates about events he had witnessed.

Ehlich K. (1983) differentiates between two forms of "narrative": "to narrate" in a broad sense, that is "to produce stories", and a narrative in a strict sense along with the other modes of narration, such as "to report", "to depict", "to describe". R. Wodak (1986) points out that the narratives in the strict sense hardly occur in everyday communication and comes to a conclusion that there is no single form of narrative, but a whole range of different realization modes. Nevertheless a "common denominator" for various narrative definitions may be extracted, that is a temporal sequence of events which is related by a narrator and which includes some actions of an actant, whether mental, or physical, or both, and causes a change of his or other's state. On the basis of this partial but fundamental agreement between the scholars operationalized narrative criteria could be proposed: a story should be considered as a narrative if the following requirements are met:

- (1) a representation of the temporal sequence of events which includes some actions of the actant, whether mental, or physical, or both, and causes a change in his/her or other's state; it may take a form of (a) complication and resolution, or (b) "disruption" of a plan;
- (2) distinct reference to a definite time, and place, and persons.

Narrative markers are:

- (a) an abstract introducing the narrative;
- (b) direct speech;
- (c) coda.

The concept 'relationship episode' (RE) stems from the Luborsky's CCRT method that may be qualified as a content-analytic technique; the data base of it is the narration about relationships (mostly with parents and other significant persons including the psychotherapist) that patients spontaneously produce during psychotherapy sessions. A judge reads the transcript of a session and locates the RE's in it; then the other judge reads only these RE's and identifies three components - Wishes, Responses of the Other and Responses of the Self (Luborsky, Crits-Christoph, 1998). Two kinds of the RE's are considered: a) patient's narratives about former interactions with different persons (objects) and b) patient's narratives and/or enactments with the therapist. Both kinds of RE are taken into account at the next step which is the search for thematic consistencies within each type of the components. A review of all the relationship episodes helps to find the most fitting level of inference for the generalized categories formulation subsuming the single score units. Then all the three types of components are counted in terms of occurrence frequency, and the most frequent ones are supposed to constitute the patient's central relationship pattern. Thus the method appears to be a process of generalization of a manifest content at the most adequate level of abstraction.

To locate an RE definite criteria are needed; in our study we used the RE criteria operationalized in the CCRT method manual (Luborsky, 1991): a) the narrator is the actant of the RE; b) unity of time and place; c) unity of the object; d) all the three components of the CCRT (Wish, Response of the Other, Response of the Self) are to be identified at least once.

Having two sets of criteria, one for narrative and the other for the RE, we can differentiate four types of text

- A. Narrative involving no RE (NA+RE-);
- B. Narrative involving a RE, or RE being a narrative (NA+RE+);
- C. RE not being a narrative (NA-RE+);
- D. Text being neither a narrative nor a RE (NA-RE-).

Material and method

Material. The textual data used for this study were 2 samples of 10 sessions (M21 and ST, both short-term psychodynamic psychotherapies). Each sample was designed so that it included the sessions from different stages of treatment.

M21 is a case of pathological grief investigated and described by M. Horowitz et al. (1993); the whole number of sessions is 28 on the one-time-a-week basis. The previous studies (e.g. Mergenthaler, E., & Horowitz, M. J., 1994) of the case showed that the patient had significantly improved and in the course of the therapy a so called 'key session' has taken place, namely the session 12 that marked a turning point in the psychotherapy progress. For our study the sessions 5, 8-14, 17 and 23 were used, so that the second quarter of the treatment including the 'key session' was fully captured, and also a session from the every other quarter of the therapy was analyzed.

The sample ST is a case of obsessive neurosis described in Albani et al., 1994, with the number of sessions 29 on the one-time-a-week basis, the most meaningful therapy progress was achieved in the third quarter of the therapy, for that reason that quarter of the text was fully captured (sessions 15-21), while from every other quarter a session was chosen (sessions 5, 10, 23).

Methods used: The CCRT method; Computer measured Referential Activity (CRA); Emotion-Abstraction Patterns (EAP). All the three methods were applied according to standard procedures, see Luborsky, L., Crits-Christoph, P., 1998; Mergenthaler, E., 1996.

Hypotheses

- (1) Narratives have a higher score of CRA than the other text.
- (2) Narratives do not differ from the other text with regard to (a) Emotion Tone and (b) Abstraction scores.
- (3) RE's being narratives differ from the RE's not being narratives as follows: a) The objects involved are significant vs. insignificant; b) They are concrete vs. generalised and more complete than RE's not being narratives.
- c) They have a central W-component involved.

Results

As the first step of the study computer-aided content-analysis for the both text samples was carried out. The Table 1 presents the means of language measures for all text types. Computer referential activity (CRA) measure produces normally two scores, high CRA (CRAh) and low CRA (CRAI); it was shown however (Mergenthaler, E., Bucci, W., in print) that the CRAh scores alone prove to be informative enough as markers of the narrative type of a discourse; this finding allowed us to use only the CRAh score.

Table 1. Mean of language measures for different text types
(for therapist's and patient's speech together)

Total	NA+RE-	NA+RE+	NA-RE+	NA-RE-
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Words	239.8	743.3	912.3	2092.8
M21	282.7	873.4	1395.4	4341.3
ST				
ET %	6.14	6.18	6.89	6.08
M21	5.37	5.35	4.32	5.03
ST	3.11	3.56	3.31	3.35
AW %	1.44	1.25	2.31	3.97
M21	26.53	24.75	19.45	19.66
ST	26.4	25.09	23.77	20.52
CRAh %				
M21				
ST				

The table 2 shows the results of analysis of variance for both samples; the language measures for all the four mentioned above text types (NA+RE-, NA+RE+, NA-RE+, NA-RE-) were compared.

Table 2. Analysis of variance for the distribution of language measures

M21	Total Words	ET %	AW %	CRAh %
ST	p<.001 F=26.97 df = 3.26	ns	ns	p<.05 F=6.45 df =3.8
	p<.001 F=36.97 fd =3.26	ns	p<.001 F=22.27 fd =3.26	p<.05 F=3.38 fd =3.26

ns = not significant

The data support the hypothesis (1): narratives differ from other text types highly significant for CRA. The hypothesis (2) is only partly supported: no statistical differences were found as regards to Emotional Tone scores for both text samples, while Abstraction scores for the text sample ST showed significant differences for different text types.

The second step was the analysis of the sample M21 by means of the CCRT method in course of which 82 RE's (whether narratives or not) and 31 narratives (not being RE) were found, the distribution of text types is presented in the Table 3. There were also found 3 RE's with the therapist in which the enactment played a main role while the narration itself was rather poor, and for that reason these RE's were not taken into account.

Table 3. Distribution of Relationship Episodes and Narratives in the sample M21

NA+RE-
31

NA+RE+
49

NA-RE+
33

M21

The extracted RE's were rated as to their completeness, concreteness and the objects involved; according to the CCRT method (Luborsky, Crits-Christoph, 1998) the RE's may be more or less complete so that the judges have to rate each RE on its degree of completeness on a scale of 1 to 5, while those rated less as 2.5 are usually considered as too sketchy to be used for judgements about the CCRT. For our purposes we have labeled the degree of completeness less than 3.5 as 'poor' and that equal or more than 3.5 as 'good enough'. Another meaningful differentiation of RE's we have made was the degree of their generalization vs. concreteness, i.e. whether the RE reports a single unique event or a typical situation without concrete references to the time, place and so on. RE's dealing with certain concrete events were called 'concrete' and those dealing with typical, or usual, or uncertain episodes were called 'generalised'. Types of other persons involved in the RE's may also be different, most often the relationships with parents, spouse, friends and bosses are described. Since one of our assumptions was that the RE's involving significant others may be also more significant for the CCRT formulation we divided the objects mentioned by the patient in two groups; one group includes the significant others (parents, spouse, boyfriend, children, the best girlfriend) while all the other persons are referred to the group of non-significant others.

The two types of RE (RE being a narrative and RE not being narrative) were compared by means of Chi-square as regards their completeness, concreteness and objects involved; the results are presented in the Table 4.

Table 4. Differences between two types of the RE's

	NA+RE+ N=49	NA-RE+ N=33	level of sign
Significant Other			
Concrete	30	23	ns
Generalised	47	11	***
Good enough	2	22	***
Poor	42	8	***
	7	25	***

*****p<.001**

As statistical analysis showed, RE's being narratives were significantly more frequent concrete and complete; the patient refers to them as to her subjective "past". However for the significant others no differences were found between the RE's being narratives and not-narratives.

The RE's were scored according to the standard procedure (Luborsky, 1991) and the identified components (Wishes (W), Responses from Others (RO) and Responses from Self (RS)) formulated in terms of standard categories were input and processed with the computer program EXAKT (see Albani et al., 1994). This program allows to reveal the CCRT itself as well as the most prominent components of the CCRT as they occur in the RE's; different levels of analysis are possible, so that one can deal with standard categories (about 30 for each component) or with the clusters of categories (8 clusters for each component). For our study both options were done, more statistically valid data were obtained for category clusters.

The CCRT data processing revealed three Wish clusters to be most frequent: W Cl 8 "to achieve and to help others"; for the patient this wish takes most often the form of "to be good, to do the right thing"; W Cl 5 "to be close and accepting", and W Cl 4 "to be distant and to avoid conflicts"; for that patient it appears in the form "to not express my feelings". The distribution of the Wish clusters for

the different kinds of the RE's is presented in the Table 5.

Table 5. Distribution of Wish Clusters for different RE types

NA+RE+	CI1	CI2	CI3	CI4	CI5	CI6	CI7	CI8
NA-RE+	4	4	3	10	7	4	4	13
Total	1	2	6	3	7	4	5	5
	5	6	9	13	14	8	9	18

Chi-square distribution showed no significant differences between the RE-narratives and RE's not-narratives on any wish cluster.

Then the whole number of the RE's was divided in two groups so that the first group (N=37) encompassed those RE's, for which CRAh scores were relatively high (Z-score > .25 of the standard deviation), while the second group (N=45) included the rest of the RE's. Chi-square distribution for this two groups showed significant differences in the frequency distribution of three wish clusters (CI 4, CI 5, CI 8, see Table 6).

Table 6. Distribution of WCI for RE's with different CRAh scores

NA+RE+ CRAh>.25	CI1	CI2	CI3	CI4	CI5	CI6	CI7	CI8
	2	2	1	8	10	1	3	10
NA-RE+ CRAh<.25								
	3	4	8	5	4	7	6	8
Total								
	5	6	9	13	14	8	9	18

According to the clinical data on this patient reported in the paper by M. Horowitz et al. (1993) her central conflict when reformulated in terms of Luborsky's standard categories may sound as follows: 'I would like to do right things (CI 8), and if I would express my feelings, I would be doing the wrong thing (CI 4: to not express my feelings)'. Therefore the clinical data confirm our finding that the wish clusters 4 and 8 should be regarded as the core ones. Thus the hypothesis 3b and 3c are also supported.

Discussion

Analysis of variance for the four text types showed significant differences on the CRAh scores for the both text samples. Computerized coding of CRAh is accomplished by means of the word list containing the words typical for texts with high Referential Activity rated by judges (Mergenthaler, Bucci, in print); it was proved that the text with higher CRAh scores appears to be more specific, concrete, clear and imaginative. We can therefore conclude that the narratives in the strict sense of the word appear to be the most specific, imaginative, clear and concrete types of the psychotherapeutic discourse as compared with any other kind of psychotherapeutic conversation. Actually the text type NA+RE- consists of the stories patients tell about other people except themselves, while stories in which the patient him/herself is an actant belong to the text type NA+RE+ or NA-RE+.

It was expected however that the Emotional Tone scores of the discourse would show no significant differences for the various text types. This hypothesis is based on the results of previous pilot studies where the three language measures (CRA, ET, AW) were compared and correlated and showed no significant correlations. The data obtained in the present study support the hypothesis 2a: in fact the clarity or imaginary or other characteristics of referential process occurring in the text do not correlate immediately with the degree of its emotional intensity. In other words one can suppose that a story told by the patient may not be emotionally charged but still may be vivid and specific. It is also important to take into account the the referential process itself should be understood not only as an intrapsychic process, but as an aspect of dyadic interaction as well; every story is told to *somebody* and thereby the referential process acquires an interpersonal meaning. It seems to be obvious that a vivid story told by one partner should arouse a vivid response by the other, a referential process occurring inside the storyteller would provoke or stimulate the referential process in the listener, and vice versa, a boring unclear story would not.

The hypothesis 2b was supported only partly: for the text sample M21 no significant differences for Abstraction scores were found, while the data from the text sample ST showed significant differences also on Abstraction scores for various text types; it means that this patient had told concrete and clear stories using a very small number of abstract words while in the other types of therapeutic discourse his Abstraction score is relative high (AW% = 3.97). The fact of that divergency between two patients may be interpreted in different ways; one can assume that distribution of abstract words for various discourse types may differ for English and German languages ; or some patients' variables, such as the degree or type of personality disorder, educational background, and so on may play a crucial role, or the therapeutic interaction may have taken a specific form so that the processes of intellectualization may have become prominent. In any case this result for the text sample ST does not disprove the previous finding concerning the absence of correlation between the CRA and Abstraction scores.-

According to our theoretical considerations we expected REs being narratives to involve more frequently the significant others (hypothesis 3a); however the empirical data showed that significant and non-significant others were involved in both types of RE's with approximately the same frequency. This fact needs more precise examination whether it depends on the individual differences of the patient or it is a typical phenomenon.

The text types NA+RE+ and NA-RE+ differ significantly on completeness and concreteness; one can assume, that on the one hand, the stories that refer to a certain unique event in the patient's past are told more vividly, i.e. more concretely, detailed, clearly and imaginative, although not more emotionally . On the other hand, the stories told in that way are likely to contain the core wishes of the patient and are therefore beneficial to be interpreted. The RE occurrence by itself is not necessarily a sign of the referential process. The data discussed here suggest that RE's not being narratives do not contain the components of the "core" (i.e. central) conflictual relationship theme, but rather may have some other function in psychotherapeutic discourse: an introductory, or a preparatory, or a defensive. They also suggest that psychotherapist's interventions can hardly be effective if they follow any generalised, incomplete static description given by the patient, because in this case the referential connections are unlikely to be activated.

RE's having high CRA scores can be seen as those dynamic narrations about relationships with significant others which are likely to contain the central wish (and probably the other central components of the CCRT as well). Thereby the present study suggests that to reveal the CCRT it may be sufficient to have examined only those RE's that are located text segments with high CRAh scores.

Conclusions

1. CRA proved to have higher scores in those text segments that can be considered as narratives in a linguistically based definition than in other types of discourse. This means that the CRA score may be regarded as the indicator of narration processes in the discourse, while neither the ET and AW scores separately, nor the patterns built out of them can serve as such indicators.

2. Analysis of the dynamics of the patient's referential process may give an answer to the question

"what is this particular story told for?" or in their word what is the pragmatic function of the given story at the particular moment of the discourse. Those stories that are told in more expressive way would presumably tend to have more impact on the listener causing more intensive response from him/her; they may pragmatically represent "a request for a response" from the listener. On the other hand, the boring or inspecific stories are likely to be "communicative signals" that inform the listener that the interaction process does not function good enough.

3. Our attempt to analyze the same text in terms of questions "what?" and "how?", and responsively with different methods seemed to be fruitful: now we know a little bit more about "how this particular story is told?" and "what is told in this particular way?": a story about a third person who acts and changes him/herself or his/her environment is told most clear, specific, imaginative and concrete; a story about him/herself is told with less clarity, specificity, imaginery and concreteness; but the more clear, etc. this story is told, the more likely the core conflicts are to be found in it.

References

- Albani, C., Pokorny, D., Dahlbender, R.-W., Kächele, H. (1994) Vom Zentralen Beziehungs-Konflikt-Thema (ZBKT) zu Zentralen Beziehungsmustern (ZBM). Eine methodenkritische Weiterentwicklung der Methode des "Zentralen Beziehungs-Konflikt-Themas". Psychotherapie, Psychosomatik, medizinische Psychologie. Bd.44, S. 89-98.
- Bucci, W. (1993). The multiple code theory and the psychoanalytic process; A framework for research. *Annu Psychoanal.*
- Bucci, W. (1995). Emotions structures, narrative structures, and the CCRT. Paper presented at the Conference on the CCRT/University of Ulm, Ulm.
- Bucci, W., & Mergenthaler, E. (in prep.). The Cycles Model. .
- Ehlich K. Alltaegliches Erzaehlen. In: W.Sanders, K.Wegenast (eds.) Erzaehlen fuer Kinder - Erzaehlen von Gott. Stuttgart, 1983.
- Horowitz, M. J., Stinson, C. H., Friedhandler, B., Milbrath, C., Redington, D. J., & Ewert, M. (1993). Pathological grief: An intensive case study. *Psychiatry*, 56, 356-374.
- Labov W., Fanshel D. (1977) Therapeutic discourse. Psychotherapy as conversation. N.Y: Acad Press.
- Luborsky, L. (1985). The core conflictual relationship theme (CRRT) method: guide to scoring and rationale .
- Luborsky, L. Manual zur ZBKT-Methode. Mit Ergänzungen der Ulmer ZBKT-Arbeitsgruppe. 1991.
- Luborsky, L., Crits-Christoph, P. (1998) Understanding Transference. N.Y., Basic Books.
- Mergenthaler, E. (1996). Emotion-Abstraction Patterns in verbatim protocols: A new way of describing psychotherapeutic processes. *Journal of Consulting and Clinical Psychology*, 64(6), 1306-1318.
- Mergenthaler, E., Bucci, W. Linking verbal and nonverbal representations: Computer analysis of referential activity. *British Journal of Medical Psychology*, (in print)
- Mergenthaler, E., & Horowitz, M. J. (1994). Linking Computer Aided Text Analysis with Variables Scored from Video Tape. In F. Faulbaum (Ed.), *SoftStat '93. Advances in Statistical Software*, (pp. 385-393). Stuttgart Jena New York: Fischer.
- Wodak R. Tales from the Vienna Woods. *Sociolinguistic and Psycholinguistic Considerations of Narrative Analysis. Poetics*, 1986, v.15, 153-182)