

## **Facial Indicators of Transference Processes within Psychoanalytic Treatment**

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This is a report of a quasi-experiment whose goal was to objectively define the psychophysical interactional basis of transference and countertransference reactions specific to a patient's neurosis. Two methodological paths, both leading to meaningful data, are discussed; for one of them a single case study is reported.

### **1. Introduction**

Central to the psychoanalytic theory of neurosis is the concept of the "repetition compulsion," which can be loosely defined as the process by which patients repeatedly recreate specific fantasies, affects, and action tendencies in some, most, or all of their relevant interactions with others. Such behaviors consist of unsuccessful and unconscious attempts to correct past, but still unresolved problems (Freud 1920g; Krause 1982b). Even among European behavior therapists there is a certain agreement that disturbed behavior is more redundant and follows some sorts of plans that lead to results the patient does not want (Caspar and Grawe 1981).

Psychoanalytic therapists are trained to use their own feelings, affects, and fantasies as important information during the diagnosis and planning of treatment as well as for actual decision making during treatment. (see Argelander 1961; Brenner 1985). Despite the tremendous importance traditionally attached to such information, there have been only very rare attempts to carefully examine the claim that these feelings, affects and fantasies are a consequence of the patient's behavior and not, as critics have claimed, of the therapist's own expectations (Racker 1968).

Thus, we are confronted with a missing link in the interaction between patient and therapist. Theoretically we assume that the patient has a conscious intention or a wish as well as a set of specific behaviors that interfere with the fulfillment of that conscious wish. These are what we call "neurotic" behaviors. At the same time we assume that the therapist uses a specific decoding procedure that leads to his own feelings, which in turn are used to guide his therapeutic decision-making. This line of thinking is based partly on a multichannel model of social interaction (Scherer 1978; Krause 1982), while a related psychoanalytic version can be found in Bucci's (1985) "dual code" theory of mental representation (cf. Bucci, this volume). From a methodological point of view, investigation of the consequences of this point of view can proceed in two ways, both of which we are pursuing. We focus on one method in this paper, while mentioning the other only briefly at the end.

## **2. Two Possible Quasi-experimental Situations**

### *A. Interactions Between Laymen and Mental Patients*

A reasonable deduction from the concept of the repetition compulsion is that neurotic behavior should be observable in dyadic relationships in which a patient interacts with a layman who does not know that his associate is a mentally disturbed person. The laymen should, if they are not themselves disturbed, react in predictable and orderly ways, narrowing their range of feelings and behavior repertoire as compared with their interactions with healthy people. We have conducted a series of research projects to examine this prediction with schizophrenics, psychosomatic patients, and stutterers, all of whom were given the task of discussing politics with unknown laymen in a standard setting. Some of these results have been published (Hans, Krause, and Steimer 1986; Krause 1980, 1982a, 1981, 1982b; Steimer, Krause, Sanger-Alt, and Wagner 1988) and will not be further discussed here.

### *B. Psychotherapeutic Interactions*

Dyadic psychotherapeutic interactions have some disadvantages for the investigation of transference behavior, among them the fact that the therapist is informed rather than naive and is not supposed to respond overtly to the patient's transference behavior. On the other hand we can get information that cannot be found in other settings, for example, about the interface between introspection and signaling and between

verbal and nonverbal data. We can also follow the changes in transference behaviors as therapy succeeds or fails. Finally we might get valid tools for the measurement of therapeutic success. We shall now focus on a quasi-experimental use of the treatment situation.

### **3. Predictions**

We shall report on a brief psychoanalytic psychotherapy that was completely videotaped in the above mentioned setting and lasted 12 hours. We have three videotaped catamnestic interviews up to one year after treatment as well as other outcome measures that showed constant improvement. Treatment was planned according to Malan's (1976a) Focal Therapy, which requires extensive interviewing and testing in order to be able to formulate a so-called focus that describe the patient's nuclear conflict before treatment. If our reasoning has been correct, we should expect that:

1. The nuclear conflict will show up in the transference behavior during treatment.
2. Based on our knowledge of facial activities, we should be able to predict the kind of facial behavior to be expected from the nuclear conflict.
3. If treatment is successful, this behavior will diminish and become available for conscious reflection and monitoring at least once during treatment.
4. With a fixed termination of the therapy, set in advance, transference behavior will be maximal in the middle of treatment, where we expect conscious realization in the patient of that behavior.

### **4. The Patient**

Mr. A, a 35-year-old man, came for help at the urging of his wife because he was troubled by anxiety attacks, especially at night, during which he was afraid that he might cause a traffic accident and kill somebody during his approaching military service in which he was to drive a truck. He thought a military court would end up condemning him severely. Mr. A, on the face of it a very kind and obedient man, had lived with his younger brother and his parents up to the age of 30, when he had his first sexual relationship with his future wife. At the age of 20 his

younger brother emigrated to Canada because of difficulties with his parents. The father, a very religious and controlled primary school teacher, had been in psychiatric treatment because of "problems with the other sex". He had had a lifelong obsession about the Russians invading his country and forcing him to act as an interpreter, so, to prepare himself, he learned Russian.

As a child the patient had also been in treatment because of anxiety attacks that prevented him from entering Kindergarten. He never succeeded in getting any formal certificate for his higher education, always failing the final examinations. Nevertheless he obtained a responsible job in a factory. Shortly before the emergence of his current symptoms, his former boss, whom he had secretly despised, died of cancer, and a young man with a formal certificate, whom the patient had trained, became his new boss. At the same time his wife had born him a son whom he loved very much, but he was worried that he might pass along his lifelong problems to him.

Based on the interviews as well as on independent projective testing, our team formulated his focal conflict as follows:

The patient is warding off destructive wishes against authority figures. He is afraid that a breakthrough of his impulses will kill the weak but arrogant father figures and then, in relation, he will be punished. Despite this latent nuclear conflict he has lived most of his life without manifest symptoms. But now, in the presence of his unconscious death wishes towards his boss, three events have triggered his neurotic behavior: (1) his boss's death, (2) his former apprentice becoming his new boss and, (3) his becoming a father himself. We expect recurrent manifestations of unconscious 'destructive' behaviors as well as defensive behaviors against them. In treatment we expect that the patient will unconsciously try to defeat himself by obediently submitting to the therapist, no matter what the therapist says, especially at those very moments when he most severely doubts the therapist's skills.

## **5. Hypotheses about Facial Behavior**

Based on Ekman and Friesen's (1975) views on facial expressions we made the following specific predictions about their occurrence during the therapy:

1. There will be a high incidence of negative affect, especially anger and/or disgust, masked by friendly social affect, especially joy and happiness in the beginning.
2. Positive affect expressions will be accompanied by indications that they are spurious.
3. Masking will diminish during treatment.
4. The therapist will smile genuinely only when the patient exhibits no facial masking.

## 6. Design of the Study

Based on a prediction table, which proved to be highly reliable, happiness was assumed to be present if there were innervations of action unit 6, a muscle raising the cheeks and wrinkling the eyes plus action unit 12, the zygomaticus major, which pulls up the lip corners during a smile. The indicators of anger were action unit 4, a muscle lowering the eye brows, action unit 7, the orbicularis oculi, tightening the lids, action unit 23 and 24, a ring muscle pressing or tightening the lips together. Indicators of disgust were action unit 9, a muscle wrinkling the nose or action unit 10, a muscle raising the upper lip, or action unit 15, a muscle pulling down the lip corners or action unit 17, a muscle raising up the chin boss.

In each of the 12 therapy sessions 4 samples of 40 seconds duration each – 20 seconds of speaking plus 20 seconds of listening time – were coded for both patient and therapist segments using Ekman and Friesen's (1979) FACS. The coders achieved a satisfactory reliability of .80 in Ekman and Friesen's final test. The sessions were coded in random order to prevent information about the natural progress of the treatment from biasing the coding. To assess these data the following dependent variables were constructed: (1) the percent of time during which joy was expressed along with anger and/or disgust (INCON%), (2) the percent of time during which the masking affect (joy) alone was displayed (A1%), and (3) the percent of time of the expression of the negative affects (anger or disgust) alone (A2%). This design is shown in Table 1. All three measurements are necessary because masking could drop during therapy as a result of an absolute reduction of joy, anger/disgust, or both of them together. Therefore only a diminution of masking that takes into account the absolute amount of expression of all of the affects is acceptable.

**Table 1 Masking Hypotheses**

Patient's face		Affect expression 1 "Joy"	
		On	Off
Affect ex- pression 2 "Anger" and/or "Disgust"		<u>State 1</u> <u>State 2</u> Inconsistency visible S1 = Duration of State 1 in Sec./100  <u>Dependent Variable:</u> INCON% = (S1/G) (100)	Negative affect alone S 2 = Duration of State 2 in Sec./100  <u>Dependent Variable:</u> A2% = (S2/G) (100)
		<u>State 3</u> <u>State 4</u> Masking affect (joy alone) S3 = Duration of State 3 in Sec./100  <u>Dependent Variable:</u> A1% = (S3/G) (100)  G = Total time	None of the affect visible S4 = Duration of State 4 in Sec./100  <u>Dependent Variable:</u> NONREL% = (S4/G) (100)

A second set of dependent measures, shown in Table 2, was created to take into account the affective expressions of the therapist as well. One of these is a measure of the simultaneous expression of the same affect in the therapist's and the patient's face while taking into consideration the absolute time of both partners' affective expression (SYNCHRON%).

**Table 2 Synchronization of Smiling**

Therapist's face		Affect expression "Joy" in therapist's face	
		On	Off
Patient's face	ON	<u>State 1</u> <u>State 2</u> Both faces smile S1 = Duration of State 1 in Sec./100  <u>Dependent Variable:</u> SYNCHRON% = (S1/G) (100)	Only patient smiles S 2 = Duration of State 2 in Sec./100  <u>Dependent Variable:</u> A2% = (S2/G) (100)
	OFF	<u>State 3</u> <u>State 4</u> Only the therapist smiles S3 = Duration of State 3 in Sec./100  <u>Dependent Variable:</u> A1% = (S3/G) (100)	Nobody smiles S4 = Duration of State 4 in Sec./100  <u>Dependent Variable:</u> NONREL % = (S4/G) (100)

A third group of eight dependent measures was created to take into account the synchronization of affect in the dyad depending on the presence or absence of another negative affect. In psychological terms this means investigating whether joy in both faces depends on the presence or absence of an additional negative affect (disgust or anger) in the patient's face. The logic of this design is shown in Table 3.

**Table 3 Conditional Synchronization**

Patient's face	Therapist's face	
Affect expression	<u>Affect expression 1</u>	
2 3	On	Off
ON ON	<u>State 1</u> <u>State 2</u> The therapist shows the investigated affect expression. Patient shows masking. masking. S1 = Duration of State 1 in Sec./100 SYNCHRON% (p) A2% (p) = (S2/G) (100) B (p)	The therapist does not show the investigated affect expression. Patient shows  S2 = Duration of State 2 in Sec./100
(Factor B)		
SYNCHRON%		
OFF	<u>State 3</u> <u>State 4</u> The therapist shows the investigated affect expression. Patient does not show masking. S3 = Duration of State 3 in Sec./100 SYNCHRON% (A)	The therapist does not show the investigated affect expression. Patient does not  S4 = Duration of State 4 in Sec./100 A2% (A) = (S4/G) (100) B (A)
masking.		
(FACTOR B)		
(S3/G) (100) B (A)		
OFF ON	<u>State 5</u> <u>State 6</u> The therapist shows the investigated affect expression. expression. S5 = Duration of State 5 in Sec./100 A1% (p) NONREL% (p)	The therapist does not show the investigated affect  S6 = Duration of State 6 in Sec./100 = (S5/G) (100) B (p)
(FACTOR B)		
= (S6/G) (100) B (p)		
OFF	<u>State 7</u> <u>State 8</u> The therapist shows the investigated affect expression. Patient does not show	The therapist does not show the investigated affect expression. Patient does not
affect. show an affect.		
(FACTOR B)		
= (S8/G) (100) B (A)	S7 = Duration of State 7 in Sec./100 A1% (A) NONREL% (A) B (A)	S8 = Duration of State 8 in Sec./100 = (S7/G) (100) B (A)

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The data were analyzed using a repeated measures multivariate analysis of variance with three factors: (1) number of the therapeutic session, (2) the segment of the hour (every quarter of an hour), and (3) speaking vs listening state.

## 7. Result

Figure 1 shows histograms of the first set of dependent measures across the 12 sessions: inconsistent expressions (INCON%), smiling alone (A1%), and disgust and anger (A2%).

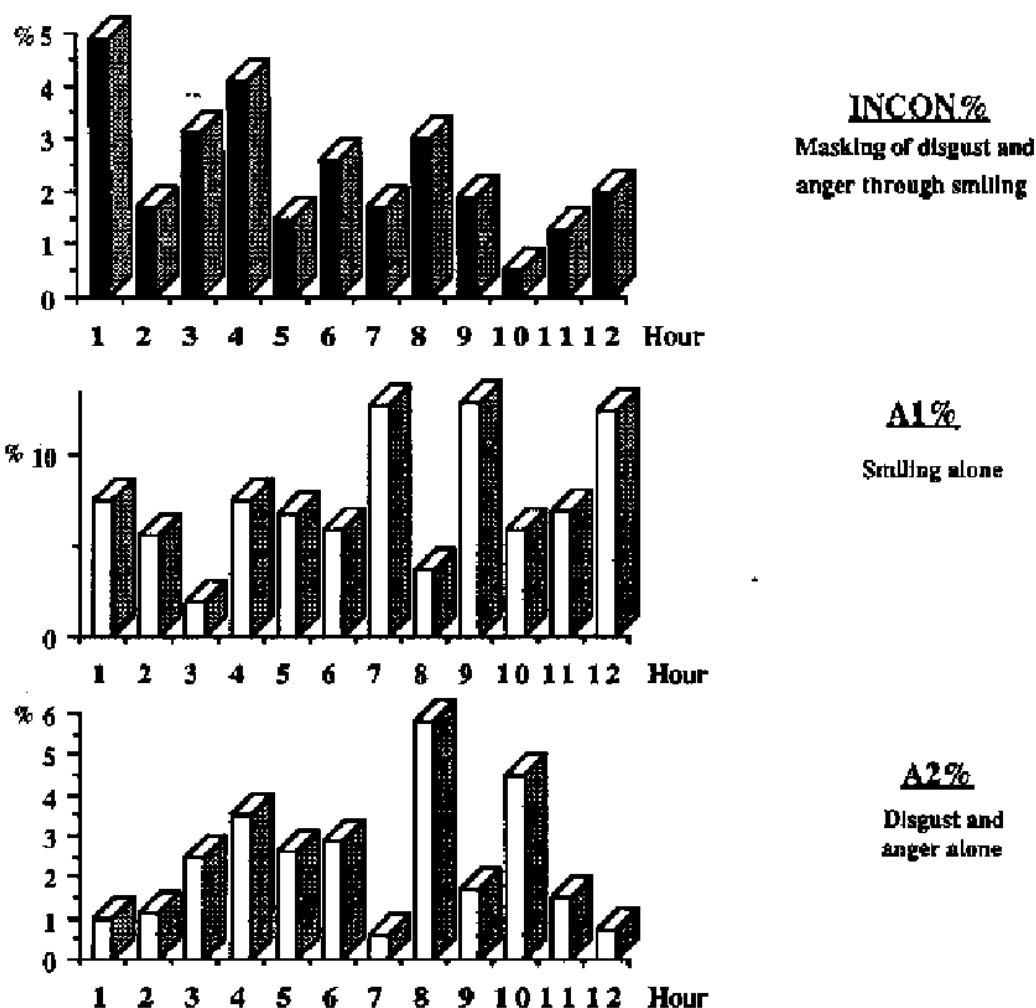


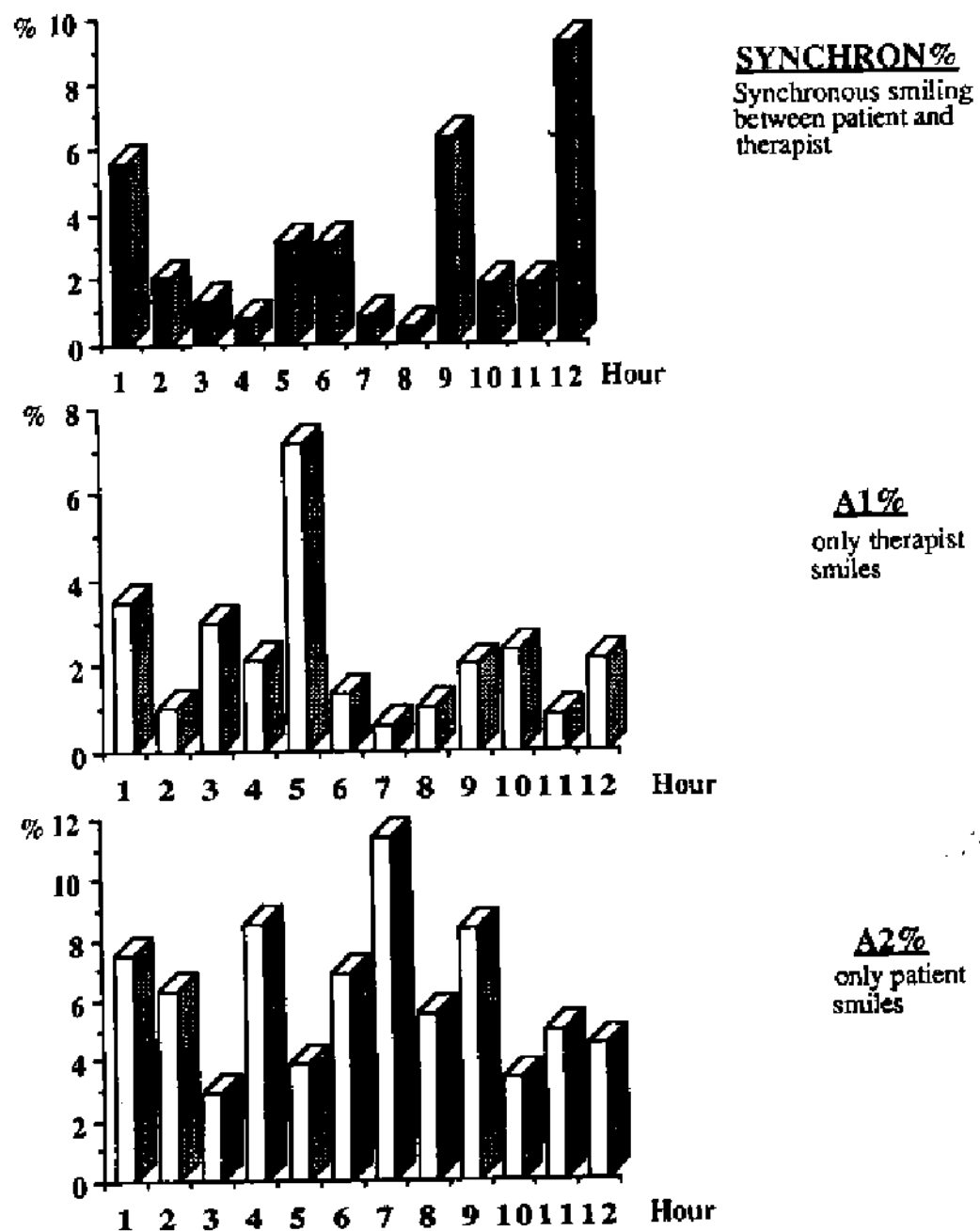
Figure 1 Changes in Patient's Masking

The analysis of variance in Table 4, indicates that there was a highly significant reduction of the masking behavior over the 12 treatment hours, taking into consideration both the covariation of the two affects and the temporal dependencies from one hour to the next. At the same time the smiling alone increased, both from the first to the last hour and from the first to the second half.

**Table 4 Development of Masking: Disgust and Anger masked by Smiling**

Hypotheses	Dependent Variable	Sum of Squares	F-Value	P-Value			
General Effect	INCON%	0.28751	2.22	0.0001			
	A1%	1.53514	1.39	0.0523			
	A1TOT%	1.83963	1.65	0.0072			
	A2%	0.30973	1.78	0.0025			
	A2TOT%	0.54058	2.03	0.0003			
Mean Effect	INCON%	0.03032	2.9	0.0024			
	A1%	0.23317	3.14	0.0012			
	A1TOT%	0.22717	2.82	0.0031			
	A2%	0.04746	3.66	0.0002			
	A2TOT%	0.08118	3.90	0.0001			
Contrasts of the Mean Effects and their Means					Means 1st Half	Means 2nd Half	Expected
1st Half versus 2nd Half	INCON%	0.00893	9.41	0.0028	2.95	1.58	yes
	A1%	0.05182	7.67	0.0067	5.77	9.06	yes
	A1TOT%	0.01771	2.42	0.12	8.72	10.64	yes
	A2%	0.00024	0.21	0.65	2.19	2.42	yes
	A2TOT%	0.00814	4.31	0.0406	5.15	4.01	yes

A questionnaire investigating the patient's subjective experience of disgust showed that it was highest in Hour 7 and returned to its lowest level in Hour 8.



**Figure 2**

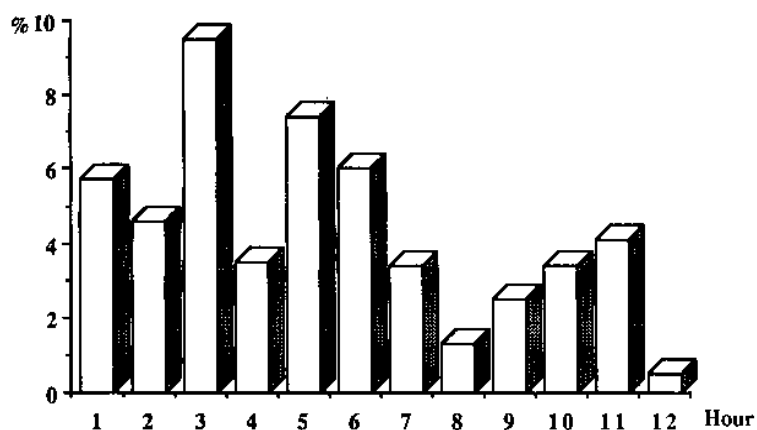
In the seventh hour the patient's negative transference broke through. He started the hour as follows:

"I cannot find much anger within myself. Sure, I am angry at all these people who I think are torturing me, and angry over the boss of my apprenticeship – extremely angry. But of course I swallow it. I don't defend myself. It's funny, I find I simply can't be angry. No matter what I do, I can't."

Nonetheless he obediently continued to search for angry feelings since he thought the therapist had ordered him to. In a very intense hour with a lot of angry silences (more than half of the hour), he laughingly expressed his triumph over the therapist who had failed to make him angry. In this way he defeated what he thought was the therapist's secret master plan to cure him by making him angry. The night before the next (eighth) session the patient became extremely anxious. Then, in Hour 8, he talked openly about what had happened in Hour 7 and his anger at the thought that the therapist would try to manipulate him into getting angry. And, although he imagined that the therapist would try to make him angry by being silent, nonetheless, during the session he had been astonished to realize that the therapist did indeed have nothing to say. (His father had once initiated a dispute with his wife in order to find out how the children would react.)

Although both patient and therapist were introspectively aware of the anger, it was minimally present in the interaction and in the motoric expressions during Hour 7. The patient talked about not being able to "find" his anger, not realizing that by doing so he actively reintroduced it into the setting. He was disgusted with the therapist, whom he saw as a loser for not being able to make him angry. Moreover, he assumed that the therapist was in turn angry with him for submissively complying. Thus, he shifted from being unable to experience his anger to both talking about it and revealing it in his facial expressions in Hour 8. This direct manifestation of anger in Hour 8 was also accompanied by a reduction in the patient's defensive affective display of smiling, for without realizing it, the patient had had a habit of showing a kind of a barely codable innervation of 12 (a *smiling trace*). This habit decreased significantly in the course of the therapy, as shown in Figure 3 and documented in Table 5.

There is an increase in synchronous smiling in the first and last hours of the treatment compared with the middle, which is not dependent on the covariate alterations of smiling by the two. The mean time therapist and patient are smiling together, is 4.61 seconds at the beginning and the end of the treatment versus 1.91 seconds in the middle of the therapy, which means the 5th, 6th and 7th hours. This difference reaches significance with a F-value of 5.95.



**Figure 3** A1%

### Patient's Smiling (Trace)

**Table 5** Patient's Smiling Trace

Hypotheses	Dependent Variable	Sum of Squares	F-Value	P-Value			
Effects							
General Effect	A1%	0.84101	2.38	0.0001			
Mean A1% Effect		0.11615	3.99	0.0001			
Contrasts of the Mean Effects and the Means of them					Means 1st Half	Means 2nd Half	Expected
1st Half versus 2nd Half	A1%	0.0635124	0.0000001	6.16	2.52	yes	

The results of the analysis of variance for conditional synchronization, revealing that the therapist smiled nearly five times more often when the patient was not masking a co-occurring negative affect expression. Again, the F-value of 16.38 is significant ( $p < .0001$ ).

These phenomena occurred mainly without any conscious consideration by either party, although once, in the middle of treatment, the therapist mentioned the patient's tendency to smile as a defense. Nonetheless this did not seem significantly related to the changes noted above.

Finally, it is of interest that each of the four predictions we made before the study were supported by the data:

1. The nuclear conflict did indeed "show up" in the both verbal and facial expressions in the transference.

2. The facial expressions did follow rationally from the hypothesized nuclear conflicts: the masking of anger and disgust by smiling diminished over the treatment; smiling alone increased; and anger and disgust were correlated with the transference manifestations.

3. The outcome measures supported the conclusion that the treatment was successful; *and* during hours 7 and 8 the patient did consciously reflect on his intense anger and assumption of arrogance in his therapist.

4. The manifest expression of the nuclear conflict was indeed maximal during the 7th and 8th hours (middle of treatment) of the 12 hour treatment.

5. Subjective experience of the affect was not correlated to the expressive system within the 7th Hour during which the negative transference and the resistance against it broke through. The patient felt a lot of negative affects, but did not show it. In the consecutive 8th Hour during which a working through of that episode happened, the patient showed a lot of negative affects, but he did not feel negative affects anymore, at least not in relation to the therapist.

However, it must be acknowledged that one of the most interesting findings, namely that the therapist smiled nearly five times more often when the patient was not masking his anger and disgust, was *not* predicted.

## 8. Discussion

Nonspecific effects play a great role within psychotherapy, suggesting that in important domains we do not know explicitly how to account for our

everyday successes (or failures) in treatment. Our treatment manuals do not cover all of the curative factors, especially representations of actions, that appear to function in psychodynamic psychotherapies. It may well be that implicit learning processes allow us to perceive and process peripheral details of the *interactions* between patient and therapist. Krause (1985) has suggested that part of the curative factors in psychoanalytic psychotherapies can be explained within the theoretical framework of conditioning procedures and vice versa.

If, for example, a therapist only smiles genuinely when the patient does not show ambivalent feelings, we might expect this to have certain effects on the course of the therapy. However, it is likely that the specific affective stimuli are processed not consciously but preconsciously, using the information in the facial expression, and that it is in this information that one may find the manifest expressions of unconscious wishes, fears, and defenses. One of the reasons why it is so extremely difficult to obtain explicit knowledge of these *interactions* is probably related to the fact that the relationship between (1) the multiple communication channels that humans use and (2) the traditional classification of intentions according to their degrees of consciousness is highly dependent both on the type of neurosis and on numerous idiosyncratic factors.

## 9. Future Studies

In future studies of short term psychotherapy we plan to explore the relations between linguistic variables and motoric affective expressions in the dyadic situation. We end with some preliminary observations of a particular patient that have served as a kind of pilot study to guide us in designing new ways to study the role of affect in the psychotherapy setting.

A 45-year-old lady with severe psychosomatic disturbances and severely disturbed relations with men, which had indeed turned her into the spinster she had always feared she would become, showed, during the first hour of brief psychotherapy, a specific kind of facial expression consisting of a mixture of contempt and disgust. With the exception of a false smile, only this expression occurred. It was coordinated with her speaking, occurring only when she paused and took a breath.

Although the therapist did not explicitly code this as an affective expression, he nevertheless found it very hard to tolerate, and oscillated among countertransference responses of rage, helplessness and disgust.

In this hour the patient talked about presents she used to get from men, which in retrospect she did not consider very flattering, since they were never quite what she wanted. While talking about a piece of land her father had given her when she was a girl, she said she didn't like it at all because he did it to get a tax deduction. The therapist interrupted her stream of complaints by saying to her, "This must have something to do with what your father thought about you." At that point the patient made the contempt-disgust face and replied, "I do not know what my father thought about me."

What is of particular interest, given the assumed importance of facial affective expressions, is the relation of this woman's idiosyncratic facial expression (and its ability to arouse strong countertransference responses) to a number of hypotheses about how to understand her reply. Four of these are:

1. She is consciously lying, and she knows what her father thought about her.

2. She did not know what her father thought about her, but unconsciously she knows that he despised her. Her facial expression reflected an identification with her father's attitude toward her. It can be understood as a kind of identification with the aggressor.

3. She did not consciously know what her father thought about her and she did not know what she thought about him. Nevertheless her face reflected her attitude toward him.

4. All this has nothing to do with her attitude, conscious or not, toward her father, but is an indicator of (a) her reaction to the intervention, or (b) to the therapist, from whom she expected inappropriate gifts, or (c) it was a commentary on the therapist as a male or as a representative of all males.

Of course these hypotheses are not mutually exclusive and it is possible that all of these hypotheses might be correct. Nonetheless we need to do more studies in which we examine the intricate interrelationships among the linguistic and the motoric affective expressions of both patient and therapist. This should lead to a better understanding of defensive processes, especially those mechanisms that directly alter the "hardware" of social interaction. Although most of the defense mechanisms described in psychoanalysis refer to alterations of mental processes, today we know that a whole group of *defenses against affect* are manifested directly by the body. In the long run it might even lead to knowledge that would enable us to improve therapists' skills in dealing with these often very-short-duration expressions of patients' feelings.



